Performed by:

Municipal & Financial Services Group

In association with:

WR&A

Town of Warrenton

Water and Sewer Rate Study

August 2015

MFSG ◆ 911-A Commerce Road ◆ Annapolis, MD 21401 ◆ 410.266.9101 ◆ mfsgllc.com

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Municipal & Financial Services Group

August 26, 2015

Mr. Bo Tucker, Director
Department of Public Works and Public Utilities
Town of Warrenton
360 Falmouth Street
Warrenton, VA 20188

Dear Mr. Tucker,

The Municipal & Financial Service Group is pleased to submit to the Town of Warrenton this water and sewer rate study report. This document represents the results of our analysis of the forecasted costs of providing water and sewer service to the Town's customers and our recommendations for how the Town should recover these costs over the next five years. The study provides a number of recommendations that will enhance the financial health and stability of the Town's water and sewer operations while equitably charging its customers for the services provided.

It has been a distinct pleasure to work with the Town of Warrenton. The assistance provided by Town staff was essential in the completion of this study. The dedication you, other Town staff and Whitman, Requardt & Associates provided during the study process should be acknowledged and was vital to the success of the study. Thank you for the opportunity to work with the Town of Warrenton on this important study.

Very truly yours,

Michael Maker

Michael Maker
Manager
Municipal & Financial Services Group

cc: Bob Etris, Whitman, Requardt & Associates

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EXECUTIVE SUMMARY

This document was prepared to summarize the work performed by the Municipal & Financial Services Group (MFSG), in association with Whitman, Requardt & Associates (WR&A), during the water and sewer rate study authorized by the Town of Warrenton ("the Town"). The study is predicated on the use of a cash flow analysis to support the pricing of utility services over a 10-year planning period (FY 2016 – FY 2025). This section of the report summarizes the findings, conclusions and recommendations developed during the course of the study.

Background

The Municipal & Financial Services Group (MFSG), working in association with Whitman, Requardt & Associates (WR&A), performed a rate study and growth analysis for the Town in 2006. While the growth analysis was updated by WR&A in 2010 and 2015, the Town has not had a formal update to the 2006 rate study. The Town has also not increased water and sewer rates since the initial 2006 rate study, and conditions, costs and usage have changed in the interim.

To address the challenges facing the Town's water and sewer funds, a scope of services was developed to provide a comprehensive rate study for the water and sewer systems. To review, analyze and develop recommendations related to the utility fund, MFSG and WR&A utilized a workplan consisting of the following tasks:

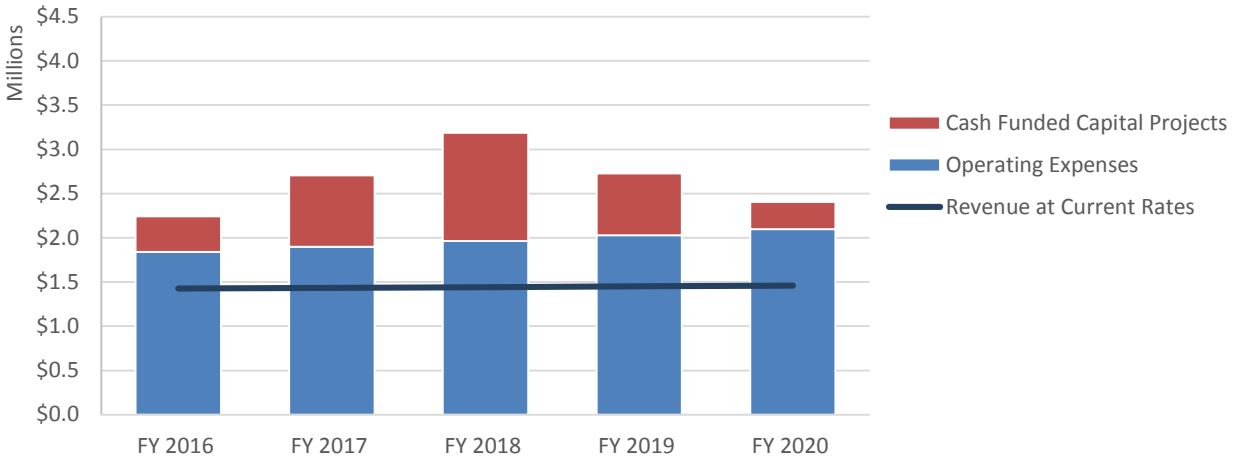
1. Request Data
2. Review Data and Analyze Trends
3. Review Capital Improvement Program (CIP)
4. Project Revenue Requirements
5. Project Cash Flow
6. Present Findings
7. Prepare Draft Report
8. Prepare Final Report

Findings

- While costs have increased and usage (and therefore revenues) has decreased, the Town has not raised water and sewer rates in almost 20 years.

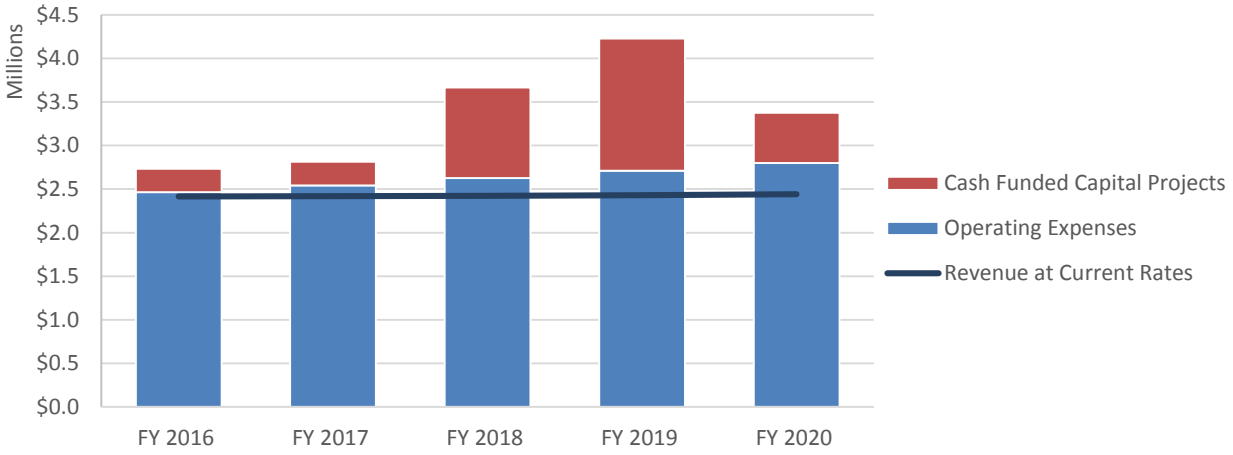
- Current water rates will not produce sufficient revenue to fund the revenue requirements for any year of the planning period. In fact, revenue collected at current water rates will not even sufficiently cover the water system's operating costs, let alone operating and capital costs.

Projected Water Operating Results



- Current sewer rates will not produce sufficient revenue to fund the revenue requirements for any year of the planning period. In fact, revenue collected at current sewer rates will not even sufficiently cover the sewer system's operating costs, let alone operating and capital costs.

Projected Sewer Operating Results



- The Town's current water availability fees are set at a level that will recover the cost of providing system capacity to new water customers; however the equivalency factors for larger meters should be revised to match the standards of the American Water Works Association (AWWA). The Town's current sewer availability fees are set a level below the cost of connecting a new customer to the sewer system.

Conclusions

- The Town needs to increase water and sewer rates in FY 2016 and over the entire planning period to keep revenues in line with expenses and to fund the required operating and capital costs identified.

- The Town should maintain water availability fees at their current levels but adjust the equivalency factors for larger meters to match the standards from AWWA. The Town should increase the sewer availability fees so that they equal the cost of providing sewer capacity to new customers.

Recommendations

- Adopt the following recommended water rates for the next five years:

Recommended In-Town Monthly Water Rates

Charge/Rate	Current	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Base Charge by Meter Size (Includes the first 2,000 gallons)						
5/8"	$4.00	$6.74	$6.76	$6.79	$6.80	$6.83
3/4"	$4.00	$10.11	$10.14	$10.19	$10.20	$10.25
1"	$4.00	$16.85	$16.90	$16.98	$17.00	$17.08
1 ½"	$4.00	$33.70	$33.80	$33.95	$34.00	$34.15
2"	$4.00	$53.92	$54.08	$54.32	$54.40	$54.64
3"	$4.00	$117.95	$118.30	$118.83	$119.00	$119.53
4"	$4.00	$212.31	$212.94	$213.89	$214.20	$215.15
6"	$4.00	$438.10	$439.40	$441.35	$442.00	$443.95
8”	$4.00	$539.20	$540.80	$543.20	$544.00	$546.40
Commodity Charge (per 1,000 gallons)						
Tier 1 (2,001 - 10,000 gallons)	$3.10	$4.95	$5.12	$5.30	$5.49	$5.68
Tier 2 (10,001 - 100,000 gallons)	$3.10	$8.66	$8.96	$9.28	$9.61	$9.94
Tier 3 (Over 100,000 gallons)	$3.10	$6.19	$6.40	$6.63	$6.86	$7.10

Recommended Out-of-Town Monthly Water Rates

Charge/Rate	Current	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Base Charge by Meter Size (Includes the first 2,000 gallons)						
5/8"	$6.00	$10.11	$10.14	$10.19	$10.20	$10.24
3/4"	$6.00	$15.17	$15.21	$15.29	$15.30	$15.36
1"	$6.00	$25.28	$25.35	$25.48	$25.50	$25.60
1 ½"	$6.00	$50.55	$50.70	$50.95	$51.00	$51.20
2"	$6.00	$80.88	$81.12	$81.52	$81.60	$81.92
3"	$6.00	$176.93	$177.45	$178.33	$178.50	$179.20
4"	$6.00	$318.47	$319.41	$320.99	$321.30	$322.56
6"	$6.00	$657.15	$659.10	$662.35	$663.00	$665.60
8”	$6.00	$808.80	$811.20	$815.20	$816.00	$819.20
Commodity Charge (per 1,000 gallons)						
Tier 1 (2,001 - 10,000 gallons)	$4.65	$7.42	$7.68	$7.95	$8.23	$8.52
Tier 2 (10,001 - 100,000 gallons)	$4.65	$12.99	$13.45	$13.92	$14.41	$14.92
Tier 3 (Over 100,000 gallons)	$4.65	$9.28	$9.60	$9.94	$10.29	$10.65

- Adopt the following recommended sewer rates for the next five years:

Recommended In-Town Monthly Sewer Rates

Charge/Rate	Current	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Base Charge by Meter Size (Includes the first 2,000 gallons)						
5/8"	$10.80	$12.22	$12.34	$12.48	$12.56	$12.67
3/4"	$10.80	$18.33	$18.51	$18.72	$18.84	$19.01
1"	$10.80	$30.55	$30.85	$31.20	$31.40	$31.68
1 ½"	$10.80	$61.10	$61.70	$62.40	$62.80	$63.35
2"	$10.80	$97.76	$98.72	$99.84	$100.48	$101.36
3"	$10.80	$213.85	$215.95	$218.40	$219.80	$221.73
4"	$10.80	$384.93	$388.71	$393.12	$395.64	$399.11
6"	$10.80	$794.30	$802.10	$811.20	$816.40	$823.55
8”	$10.80	$977.60	$987.20	$998.40	$1,004.80	$1,013.60
Commodity Charge (per 1,000 gallons)						
All Usage	$6.20	$8.47	$8.77	$9.08	$9.40	$9.73

Recommended Out-of-Town Monthly Sewer Rates

Charge/Rate	Current	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Base Charge by Meter Size (Includes the first 2,000 gallons)						
5/8"	$16.20	$18.32	$18.50	$18.73	$18.84	$19.01
3/4"	$16.20	$27.48	$27.75	$28.10	$28.26	$28.52
1"	$16.20	$45.80	$46.25	$46.83	$47.10	$47.53
1 ½"	$16.20	$91.60	$92.50	$93.65	$94.20	$95.05
2"	$16.20	$146.56	$148.00	$149.84	$150.72	$152.08
3"	$16.20	$320.60	$323.75	$327.78	$329.70	$332.68
4"	$16.20	$577.08	$582.75	$590.00	$593.46	$598.82
6"	$16.20	$1,190.80	$1,202.50	$1,217.45	$1,224.60	$1,235.65
8”	$16.20	$1,465.60	$1,480.00	$1,498.40	$1,507.20	$1,520.80
Commodity Charge (per 1,000 gallons)						
All Usage	$9.30	$12.71	$13.16	$13.62	$14.10	$14.60

- Review rates and charges on an annual basis and revise as needed. Consider a full cost of service study for all rates and charges every five years. While it is recommended to adopt rates and charges for five years so they do not have to be revisited and voted on every year by the Council, it is financially prudent to review expenses and revenues annually to ensure actual values are relatively in line with those projected.

- Adopt the following recommended availability fees:

Recommended Water Availability Fees

Meter Size (inches)	Current		Recommended	
	In-Town	Out-of-Town	In-Town	Out-of-Town
5/8	$4,950	$7,425	$4,950	$7,425
1	$12,375	$18,563	$12,375	$18,563
1 1/2	$24,750	$37,125	$24,750	$37,125
2	$39,600	$59,400	$39,600	$59,400
3	$86,625	$129,938	$86,625	$129,938
4	$148,500	$222,750	$155,925	$233,888
6	$309,375	$464,063	$321,750	$482,625
8	$396,000	$594,000	$396,000	$594,000

Recommended Sewer Availability Fees

Meter Size (inches)	Current		Recommended	
	In-Town	Out-of-Town	In-Town	Out-of-Town
5/8	$7,300	$10,950	$10,800	$16,200
1	$15,500	$23,250	$27,000	$40,500
1 1/2	$31,000	$46,500	$54,000	$81,000
2	$49,600	$74,400	$86,400	$129,600
3	$108,500	$162,750	$189,000	$283,500
4	$186,000	$279,000	$340,200	$510,300
6	$387,500	$581,250	$702,000	$1,053,000
8	$496,000	$744,000	$864,000	$1,296,000

1. BASIS FOR THE STUDY

1.1 Background

The Town of Warrenton, located about 45 miles southwest of Washington, DC, is the county seat of Fauquier County. The Town has a total area of 4.2 square miles and a 2014 Census estimated population of 9,862.

The Town is governed by a Mayor and seven-member Council, with five Council members representing each of the Town's five wards and two members serving at-large. The Council appoints a Town Manager to run day-to-day operations of the Town.

Water and sewer service is provided by the Town's Public Utilities Department and is operated as a standalone enterprise fund. The revenues for this fund are derived from water and sewer user charges paid by current customers, availability fees paid by new customers and other miscellaneous revenues. The water utility treats and distributes an average 1.30 million gallons of water per day (MGD), serving 4,860 In-Town and Out-of-Town customer accounts. The sewer utility collects and treats an average 1.80 million gallons of sewage per day, serving 4,420 In-Town and Out-of-Town customer accounts.

The Municipal & Financial Services Group (MFSG), working in association with Whitman, Requardt & Associates (WR&A), performed a rate study and growth analysis for the Town in 2006. While the growth analysis was updated by WR&A in 2010 and 2015, the Town has not had a formal update to the 2006 rate study. The Town has also not increased water and sewer rates since the initial 2006 rate study, and conditions, costs and usage have changed in the interim.

1.2 Scope of Work

To address the challenges facing the Town's water and sewer funds, a scope of services was developed to provide a comprehensive rate study for the water and sewer systems. To review, analyze and develop recommendations related to the utility fund, MFSG and WR&A utilized a workplan consisting of the following tasks:

1. Request Data
2. Review Data and Analyze Trends
3. Review Capital Improvement Program (CIP)
4. Project Revenue Requirements
5. Project Cash Flow
6. Present Findings
7. Prepare Draft Report
8. Prepare Final Report

1.3 Guiding Principles

The following principles were used to guide the rate study and were developed with the assistance of the Town's staff:

- The water and sewer systems must each be financially self-supporting. It is assumed that the cost of operating and maintaining the systems must be supported by the water and sewer rates and charges collected from customers.

- The Town should maintain reserves to provide for contingencies and unplanned expenses and to ensure that funds are generated to allow for appropriate system repair and replacement without the need to take on debt. The use of reserves also allows for gradual, smooth rate adjustments rather than sudden or steep rate increases. The Town has expressed the desire to maintain a combined fund balance of $3.00 million ($1.00 million for water and $2.00 million for sewer).

- Water and sewer rates and fees should be kept as low as possible *over time*. It is possible to keep rates low for a period of time by not investing sufficiently in the maintenance of the systems, but eventually the systems will deteriorate and require substantial investments leading to a need for significant and immediate rate increases. The assumption that the Town will continually reinvest in the water and sewer systems to replace assets as they reach the end of their useful lives is built into the analysis and allows for timely and predictable rate increases.

Depending on availability, actual Fiscal Year (FY) 2014, adopted FY 2015 data or proposed FY 2016 data was used as the base upon which forecasted figures were developed. All years within this report refer to the Town's fiscal year (July 1 to June 30). While the study and associated financial model projects all necessary data for a 10-year planning period (FY 2016 – FY 2025), this report provides data for the first five years in which rates have been calculated (FY 2016 – FY 2020).

2. WATER REVENUE REQUIREMENTS

This section of the report outlines the historical and future costs of operating and maintaining the Town's water system, which constitute the water system revenue requirements. Our approach includes a detailed review of each of the costs incurred by the Town to ensure that the true cost of providing water service is developed. The cost analysis can be broken into three main categories of costs: operating and maintenance expenses, existing debt service and capital improvements. This section describes each of the categories of expenses incurred by the Town as it provides water service. The costs are all based on official documents and data provided by the Town.

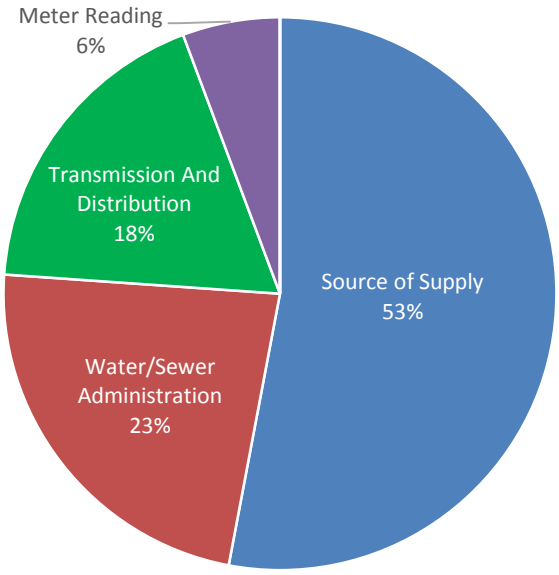
2.1 Operating and Maintenance Expenses

The day-to-day operating expenses of the water system have been grouped into the following categories:

1. Source of Supply
2. Water/Sewer Administration
3. Transmission and Distribution
4. Meter Reading

The total water adopted budget for FY 2015 equals approximately $1.77 million. Exhibit 2.1 provides a breakdown by category (with percent of total budget) for the adopted FY 2015 budget.

Exhibit 2.1 FY 2015 Water Operating Expenses



FY 2015 water budget line items were escalated using a variety of indices, based on the type of expense. Exhibit 2.2 shows the escalation rates used for each type of expense.

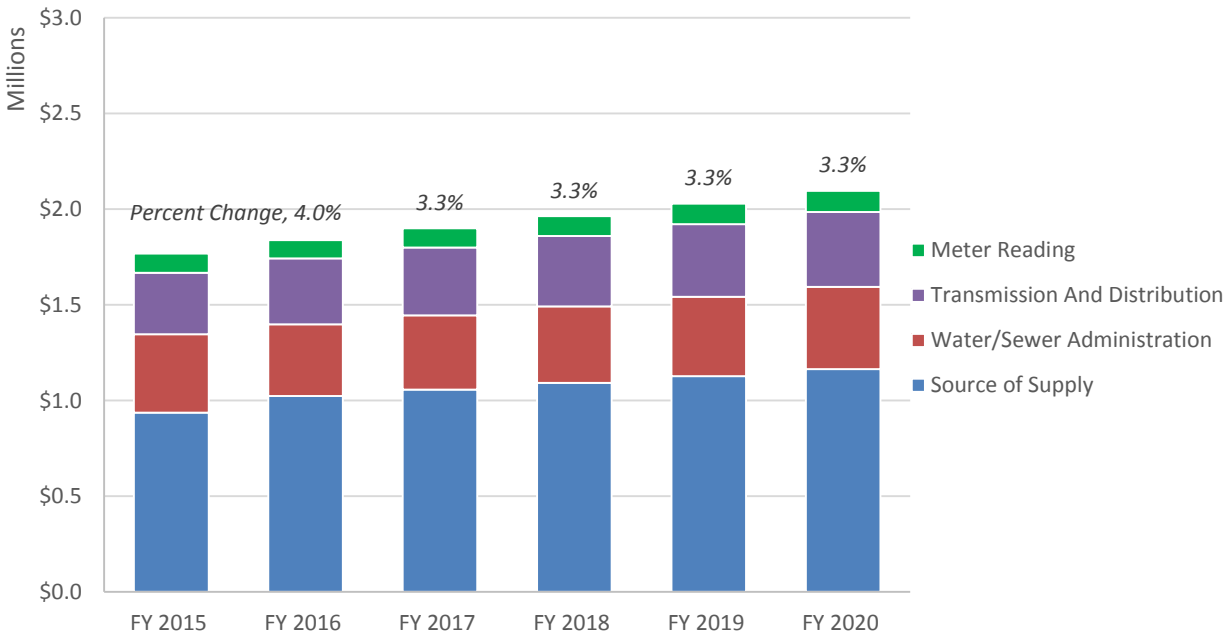
Exhibit 2.2 Cost Escalation Rates

Index	Source	Annual Escalation Rate[1]
Labor (Salary, Wages)	User-Defined	4.0%
Benefits (Health, Retirement, FICA)	Consumer Price Index	2.1%
Electricity	Producer Price Index	3.2%
Chemicals	Producer Price Index	3.2%
Services and Supplies	Producer Price Index	3.2%
Maintenance and Repairs	Producer Price Index	3.2%
Other (Capital Outlay, Payments, etc.)	No Increase	0.0%

[1]*CPI and PPI are based on the last 10 years of data as provided by the U.S. Department of Labor's Bureau of Labor Statistics and published by American City & County*

Exhibit 2.3 shows projected O&M expenses by category over the first five years of the planning period, with the total percentage change from the previous year shown above each column.

Exhibit 2.3 Projected Water Operating Expenses



2.2 Capital Costs

The annualized capital costs related to providing water service are generally comprised of existing debt service and any anticipated capital projects, which may be funded via the issuance of debt (typically bonds, loans or similar financial instruments) or funded from cash (either reserves on hand or cash derived from operations).

2.2.1 Existing Debt

The Town currently does not have any existing water debt.

2.2.2 Planned Capital Improvement Projects

The Town has a detailed water system capital improvement plan (CIP) through FY 2020. Exhibit 2.4 shows the Town's planned capital spending by function for the first five years of the planning period. The Town is planning to cash fund all of the projected water capital expenses shown below.

Exhibit 2.4 Water Planned Capital Improvement Projects by Type

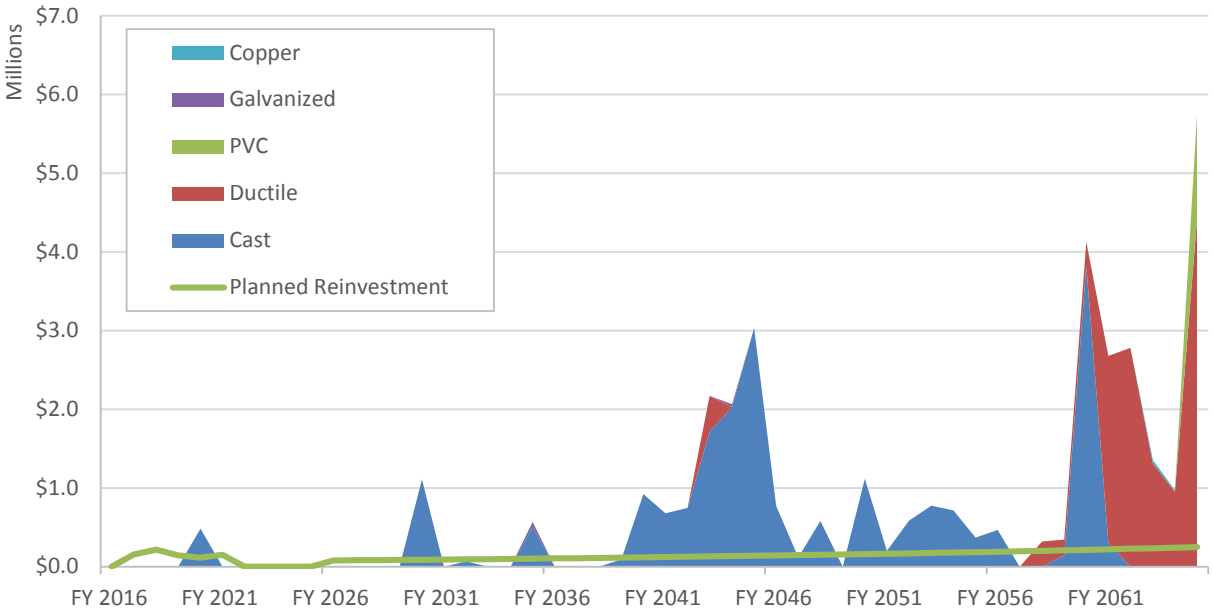
CIP ($, millions)	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Treatment	$0.34	$0.65	$0.98	$0.55	$0.08
Distribution	-	$0.16	$0.22	$0.14	$0.12
Equipment	$0.06	-	$0.03	$0.01	$0.12
Total	**$0.40**	**$0.81**	**$1.22**	**$0.70**	**$0.31**

2.2.3 Water Line Analysis

In its capital improvement program, the Town includes funding for several distribution system projects, which help fund the repair and replacement of buried water assets (e.g., lines and mains) and pump stations. To evaluate the need for any additional capital investment, MFSG completed a detailed review of the Town's buried infrastructure. The goal of the review was to provide the Town with an estimate of the annual investment required to appropriately maintain the water system and maximize the useful lives of its assets. The annual investment required is compared with the annual investment planned, with the difference between what is required and what is planned being the amount of additional water investment in repair, renewal and replacement that should be included in the capital improvement plan.

Of the over 450,000 linear feet of water mains maintained by the Town, almost 98% is composed of ductile iron or cast iron. A comparison of the investment required (based on an assumed useful life of 80 years and an estimated replacement cost that ranged from $119 to $221 per linear foot, depending on diameter of pipe) and the reinvestment planned (based on the distribution system projects in the Town's capital improvement program) for the next five decades is shown in Exhibit 2.5; it should be noted that the annual cost of reinvestment projects planned after FY 2025 equals the average cost of the distribution system projects of the 10-year capital improvement plan (FY 2016 to FY 2025) with an escalation rate of 3% per year.

Exhibit 2.5 Water Lines by Replacement Year



While Exhibit 2.5 provides a high level overview of estimated replacement costs and planned reinvestment in distribution system projects over the next 50 years, the study compared these two costs over the study's 10-year planning period (FY 2016 through FY 2025) in order to assess the need for additional line replacement. The exhibit demonstrates that the Town plans to invest anywhere from zero to $0.22 million each year in distribution system projects over the next ten years (an average of $78,000 per year). Based on the replacement cost of pipes that are estimated to exceed their useful life during the next ten years, the exhibit also demonstrates that anywhere between $7,000 and $0.49 million is required to be invested in a given year over the 10-year planning period (an average of $55,000 per year). The average estimated required reinvestment is offset by the actual amount of reinvestment planned by the Town. As the Town plans to spend an adequate amount over the next 10 years on distribution system projects ($0.78 million in total over the next 10 years), additional line spending is not currently recommended.

It is important to note that this analysis does not result in additional recommended spending because it is based solely on the next 10 years. As can be seen in Exhibit 2.5, there is a significant quantity of linear feet of pipe that will exceed its theoretical useful life over the next several decades. As the analysis is also based on the theoretical useful lives and estimated replacement costs of pipe materials provided by Town staff, the analysis serves only as a proxy for when distribution system infrastructure should be replaced and what it will cost to replace it. Town staff will have a better idea of when mains and other water system assets truly need to be replaced and what this will cost based on an assessment of their physical condition.

2.3 Water Revenue Requirement

The total annual cost of operating the Town's water system (the gross revenue requirements) includes the sum of operating and maintenance expenses and current and future capital costs. The sum of these costs, less any miscellaneous revenues, is the amount that needs to be recovered from user rates (referred to as the net revenue requirement). Water miscellaneous revenues include availability fees, rental income and other miscellaneous non-rate revenues.

Exhibit 2.6 shows the revenue requirements for the first five years of the planning period (FY 2016 to FY 2020).

Exhibit 2.6 Water Revenue Requirements

($, millions)	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Costs						
Operating Expenses	$1.77	$1.84	$1.90	$1.96	$2.03	$2.10
Existing Debt Service	-	-	-	-	-	-
Cash Funded Capital Projects	$0.13	$0.40	$0.81	$1.22	$0.70	$0.31
Projected Debt Service	-	-	-	-	-	-
Total Revenue Requirement	**$1.90**	**$2.24**	**$2.71**	**$3.19**	**$2.73**	**$2.41**
Less Miscellaneous Revenues	$(0.24)	$(0.22)	$(0.23)	$(0.23)	$(0.24)	$(0.24)
Net Revenue Requirement	**$1.65**	**$2.02**	**$2.48**	**$2.95**	**$2.49**	**$2.16**

3. SEWER REVENUE REQUIREMENTS

Like the previous section for the water system, this section of the report outlines the historical and future costs of operating and maintaining the Town's sewer system, which constitute the sewer system revenue requirements. This section describes each of the categories of expenses (operating and maintenance expenses, existing debt service and capital improvements) incurred by the Town as it provides sewer service.

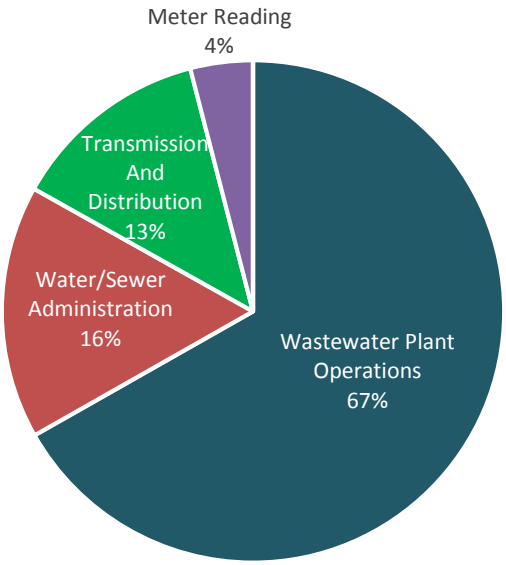
3.1 Operating and Maintenance Expenses

The day-to-day operating expenses of the sewer system have been grouped into the following categories:

1. Wastewater Plant Operations
2. Water/Sewer Administration
3. Transmission and Distribution
4. Meter Reading

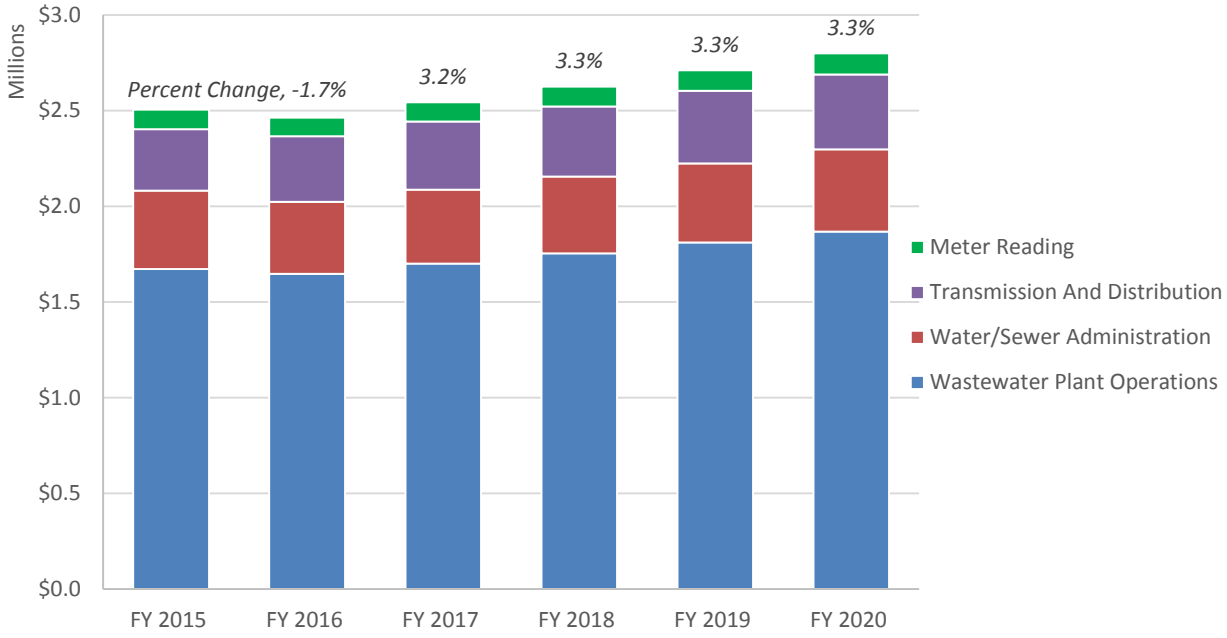
The total sewer adopted budget for FY 2015 equals approximately $2.50 million. Exhibit 3.1 provides a breakdown by category (with percent of total budget) for the adopted FY 2015 budget.

Exhibit 3.1 FY15 Sewer Operating Expenses



FY 2015 sewer budget line items were escalated using the same indices as water. Exhibit 3.2 shows projected O&M expenses by category over the first five years of the planning period, with the total percentage change from the previous year shown above each column.

Exhibit 3.2 Projected Sewer Operating Expenses



3.2 Capital Costs

As with water, the annualized capital costs related to providing sewer service are generally comprised of existing debt service and any anticipated capital projects, which may be funded via the issuance of debt (typically bonds, loans or similar financial instruments) or funded from cash (either reserves on hand or cash derived from operations).

3.2.1 Existing Debt

The Town currently does not have any existing sewer debt.

3.2.2 Planned Capital Improvement Projects

The Town has a detailed sewer system CIP through FY 2020. Exhibit 3.3 shows the Town's planned capital spending by function for the five years of the planning period.

Exhibit 3.3 Sewer Planned Capital Improvements by Type

CIP ($, millions)	FY16	FY17	FY18	FY19	FY20
Treatment	-	-	$0.13	$1.26	$0.06
Collection	$0.21	$0.24	$0.91	$0.25	$1.15
Equipment	$0.06	$0.03	-	$0.01	$0.12
Total	**$0.27**	**$0.27**	**$1.04**	**$1.52**	**$1.33**

While the Town plans on cash funding the majority of the sewer CIP, a portion of the projects starting in FY 2020 will be debt funded. Exhibit 3.4 provides a breakdown of the funding sources used for the Town's sewer capital projects for the first five years of the planning period.

Exhibit 3.4 Sewer Planned Capital Improvement Project Funding

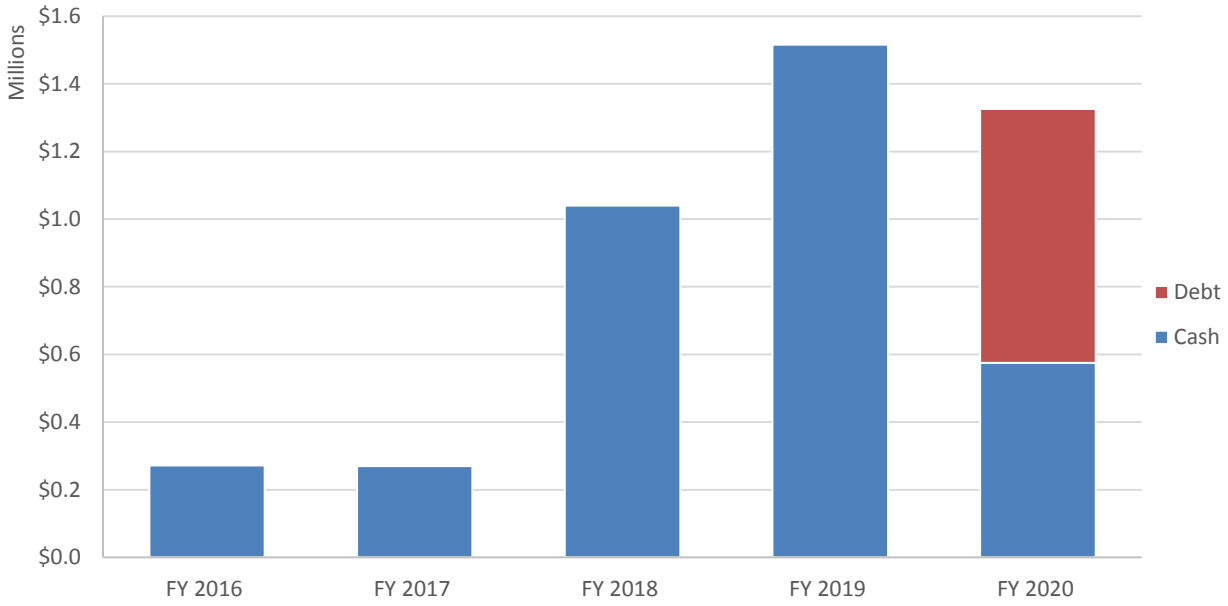


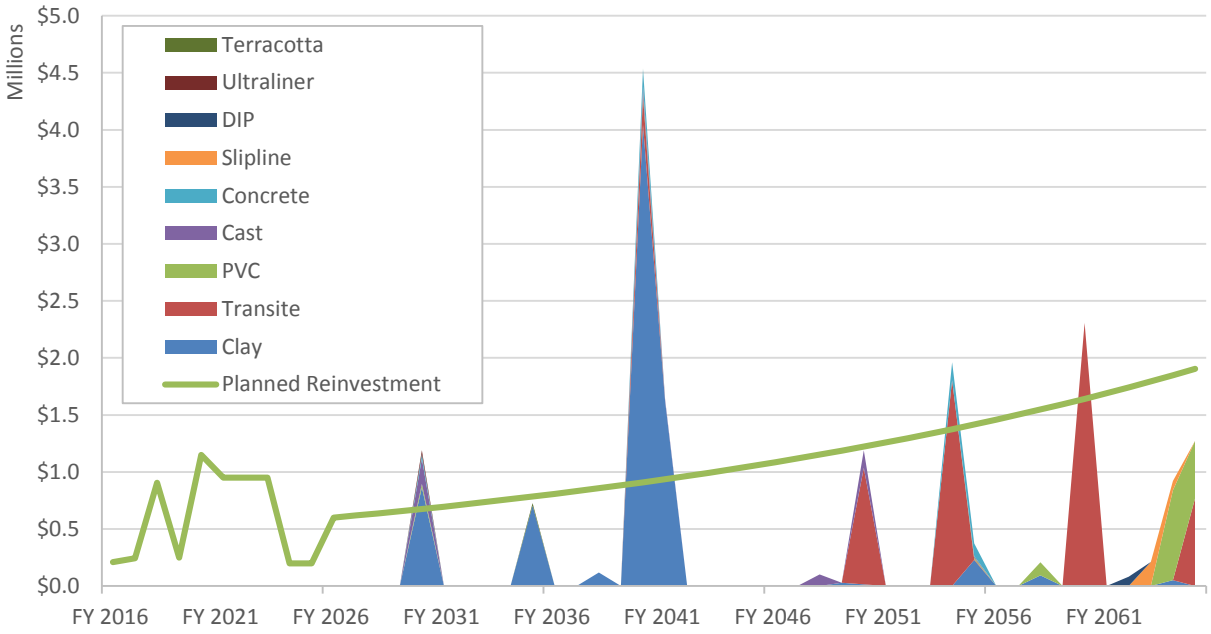
Exhibit 3.4 shows that some sewer capital projects slated for FY 2020 will be debt funded. As these projects will be undertaken in FY 2020, the debt payments are assumed to start in FY 2021. As this is outside of the first five years of the planning period, no debt payments are shown in this report.

3.2.3 Sewer Line Analysis

In its capital improvement program, the Town includes funding for several collection system projects, which help fund the repair and replacement of buried sewer assets (e.g., lines and mains) and pump stations. As with water, MFSG compared the annual sewer investment required with the annual sewer investment planned, with the difference between what is required and what is planned being the amount of additional sewer investment in repair, renewal and replacement that should be included in the capital improvement plan.

Of the over 358,000 linear feet of sewer mains maintained by the Town, almost 92% is composed of ductile PVC, clay or transite. A comparison of the investment required (based on an assumed useful life of 80 years and an estimated replacement cost that ranged from $86 to $113 per linear foot, depending on diameter of pipe) and the reinvestment planned (based on the collection system projects in the Town's capital improvement program) for the next five decades is shown in Exhibit 3.5; it should be noted that the annual cost of reinvestment projects planned after FY 2025 equals the average cost of the collection system projects of the 10-year capital improvement plan (FY 2016 to FY 2025) with an escalation rate of 3% per year.

Exhibit 3.5 Sewer Lines by Replacement Year



While Exhibit 3.5 provides a high level overview of estimated replacement costs and planned reinvestment in collection system projects over the next 50 years, the study compared these two costs over the study's 10-year planning period (FY 2016 through FY 2025) in order to assess the need for additional line replacement. The exhibit demonstrates that the Town plans to invest anywhere from $0.20 million to $1.20 million each year in collection system projects over the next ten years (an average of $0.60 million per year). Based on the replacement cost of pipes that are estimated to exceed their useful life during the next ten years, the exhibit also demonstrates that no lines are projected to exceed their useful lives over the 10-year planning period. As the Town plans to spend an adequate amount over the next 10 years on collection system projects ($6.00 million in total over the next 10 years), additional line spending is not currently recommended.

It is important to note that this analysis does not result in additional recommended spending because it is based solely on the next 10 years. As can be seen in Exhibit 3.5, there is a significant amount of linear feet of pipe that will exceed its theoretical useful life over the next several decades. As the analysis is also based on the theoretical useful lives and estimated replacement costs of pipe materials provided by Town staff, the analysis only serves as a proxy for when collection system infrastructure should be replaced and what it will cost to replace it. Town staff will have a better idea of when mains and other sewer system assets truly need to be replaced and what this will cost based on an assessment of their physical condition.

3.3 Sewer Revenue Requirement

The total annual cost of operating the Town's sewer system (the gross revenue requirements) includes the sum of operating and maintenance expenses and current and future capital costs. The sum of these costs, less any miscellaneous revenues, is the amount that needs to be recovered from user rates (referred to as the net revenue requirement). Sewer miscellaneous revenues include availability fees, penalties and other miscellaneous non-rate revenues.

Exhibit 3.6 shows the revenue requirements for the first five years of the planning period (FY 2016 to FY 2020).

Exhibit 3.6 Sewer Revenue Requirements

($, millions)	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Costs						
Operating Expenses	$2.50	$2.46	$2.54	$2.63	$2.71	$2.80
Existing Debt Service	-	-	-	-	-	-
Cash Funded Capital Projects	$0.35	$0.27	$0.27	$1.04	$1.52	$0.58
Projected Debt Service	-	-	-	-	-	-
Total Revenue Requirement	**$2.85**	**$2.73**	**$2.81**	**$3.67**	**$4.23**	**$3.37**
Less Miscellaneous Revenues	$(0.24)	$(0.22)	$(0.23)	$(0.23)	$(0.24)	$(0.24)
Net Revenue Requirement	**$2.61**	**$2.51**	**$2.59**	**$3.43**	**$3.99**	**$3.13**

4. CUSTOMERS AND USAGE

This section provides a summary of historical and projected Town water and sewer customer accounts and water usage/sewage generation.

4.1 Water and Sewer Customer Data

The Town of Warrenton currently serves both customers inside the Town's limits ("In-Town" customers) and outside the Town's limits ("Out-of-Town" customers). Exhibit 4.1 provides a current breakdown of water and sewer customers based on location and meter size.

Exhibit 4.1 Customers (FY 2015)

Meter Size (inches)	In-Town		Out-of-Town	
	Water	Sewer	Water	Sewer
5/8	3,418	3,295	1,197	898
3/4	-	-	-	-
1	120	112	6	5
1 1/2	52	50	4	4
2	50	49	6	3
3	6	5	1	1
4	-	-	-	-
6	-	-	-	-
8	-	-	-	-
Total	**3,646**	**3,511**	**1,214**	**911**

Based on projected residential and non-residential development within the Town's service area, water customers are expected to increase at a rate of 2.3% to 3.0% annually over the first five years of the planning period (FY 2016 to FY 2020), while sewer customers are expected to increase 1.7% to 2.6% annually over the same period. Exhibit 4.2 shows projected water customers over the first five years of the planning period, while Exhibit 4.3 shows projected sewer customers over the same period.

Exhibit 4.2 Projected Water Customers

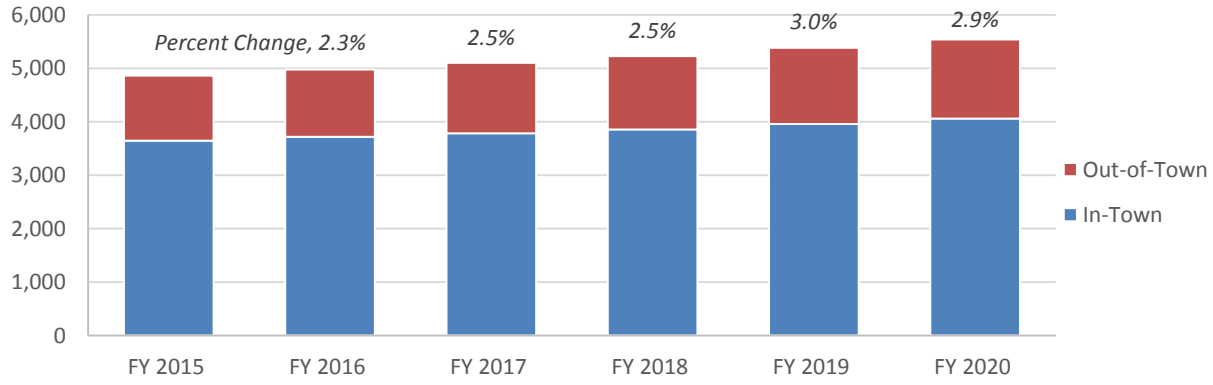
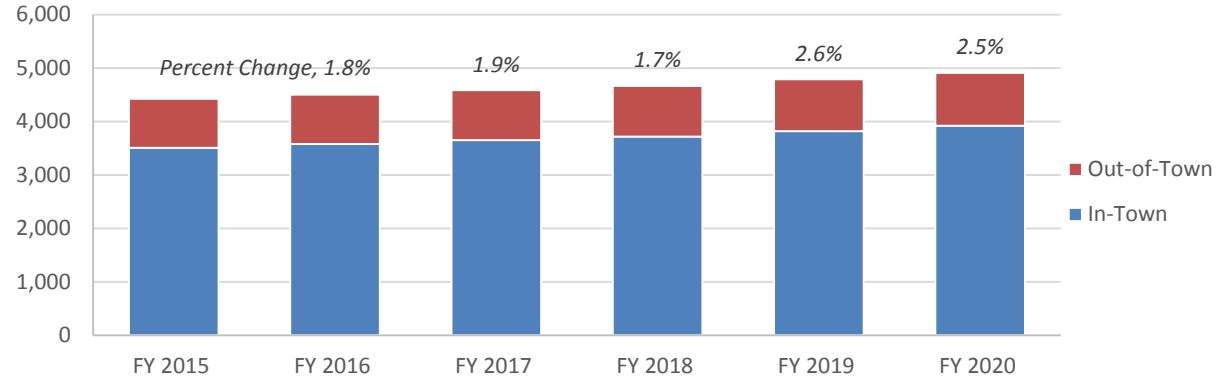


Exhibit 4.3 Projected Sewer Customers



Total metered water usage for FY 2014 is estimated to be 382 million gallons, while sewage generation is estimated to be 353 million gallons. Based on past growth in water usage/sewage generation and national trends of declining usage, we have used a conservative estimate of -0.5% growth (declining usage) in water usage/sewage generation over the planning period. Exhibit 4.4 shows projected water usage over the first five years of the planning period, while Exhibit 4.5 shows projected sewage generation over the same period.

Exhibit 4.4 Projected Water Consumption (Gallons)

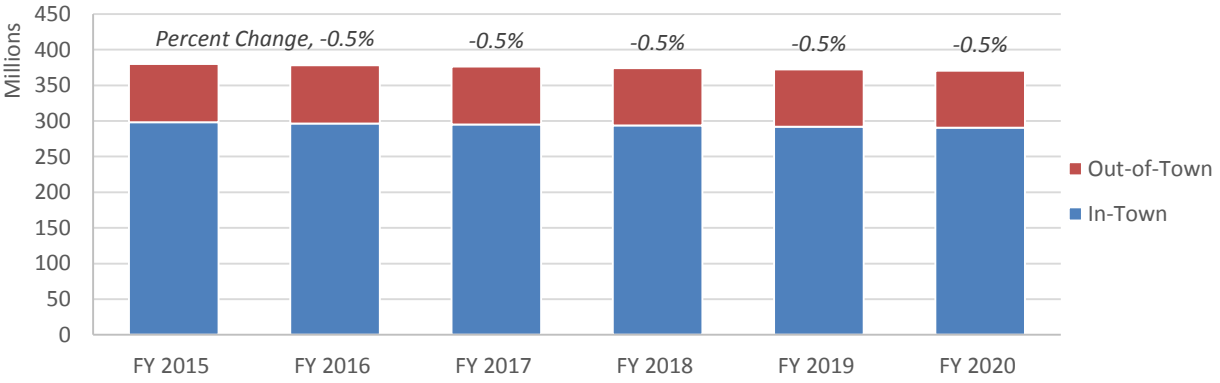
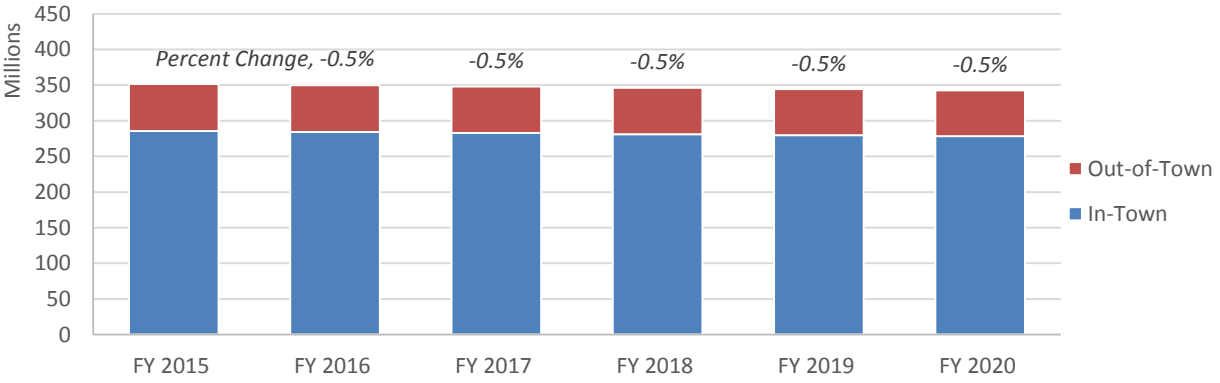


Exhibit 4.5 Projected Sewage Generation (Gallons)



5. WATER FINANCIAL PLAN AND PROPOSED RATES

One of the major results of a rate study is a recommended financial plan and proposed rates that will ensure financial health for the utility. In Sections 2 and 4, MFSG projected the costs (net revenue requirements), customers and consumption for the Town's water system. In this section, we use those projections to determine an appropriate financial plan and set water rates for the next five years.

The adequacy of revenues from current rates was evaluated in order to determine if existing rates are sufficient to recover the net revenue requirements. Exhibit 5.1 compares the net revenue requirements identified for water with anticipated revenues at current rates.

Exhibit 5.1 Projected Water Revenue at Current Rates

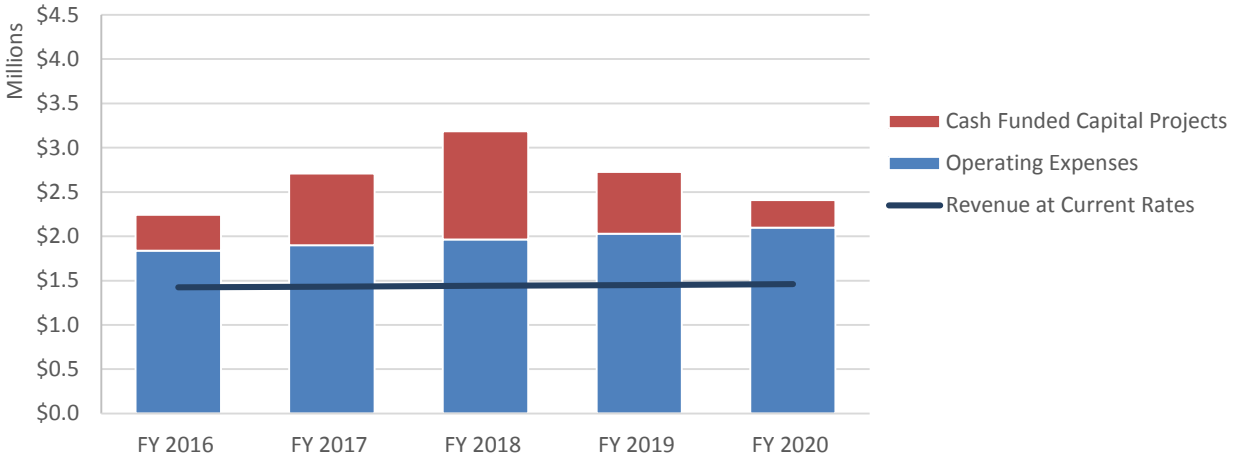
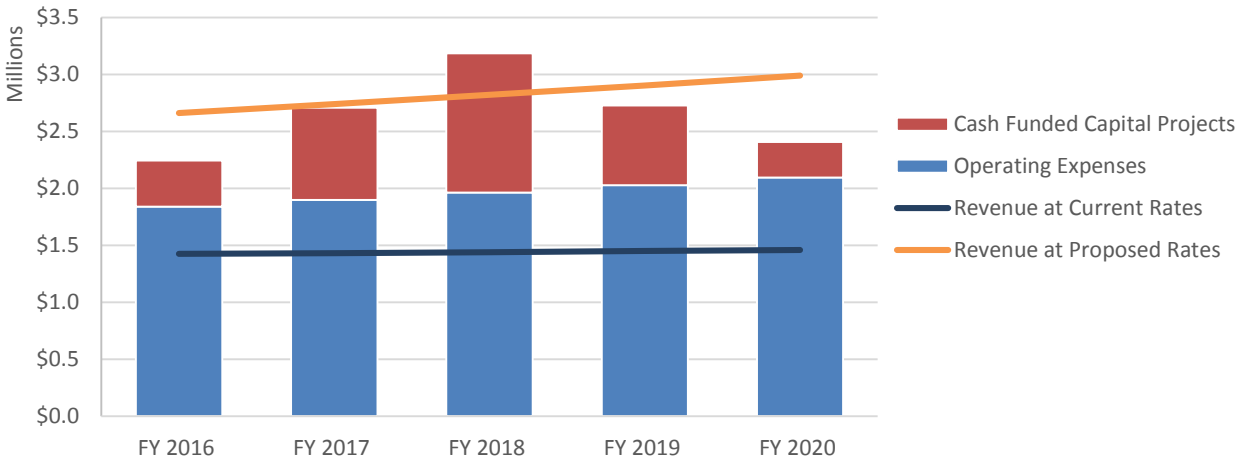


Exhibit 5.1 demonstrates that revenue collected at current rates will not even sufficiently cover the water system's operating costs, let alone operating and capital costs. Town staff acknowledges that rates need to be increased as cash reserves have been used for several years to offset shortfalls in the water fund. Exhibit 5.2 is identical to Exhibit 5.1 but with revenue at proposed rates included.

Exhibit 5.2 Water Revenue with Proposed Rates



Although Exhibit 5.2 shows a shortfall in FY 2018, revenue at proposed rates has been calculated so that the target water fund cash balance of $1.00 million is met throughout each of the next five years.

5.1 Current Water Rates

The Town's current water design consists of a monthly minimum base charge (which includes the first 2,000 gallons of usage) and a commodity charge per 1,000 gallons of usage (over the first 2,000 gallons). Out-of-Town customers are charged 1.5 times the rates of In-Town customers. Exhibit 5.3 presents current water rates.

Exhibit 5.3 Current Monthly Water Rates

Charge/Rate	In-Town	Out-of-Town
Base Charge, includes the first 2,000 gallons	$4.00	$6.00
Commodity Charge, per 1,000 gallons	$3.10	$4.65

Even though it includes 2,000 gallons of usage, the base charge is set at less than two times the commodity charge ($4.00 as opposed to $6.20 for In-Town and $6.00 as opposed to $10.30 for Out-of-Town) resulting in a discount of 35%. In order to mitigate the impact on customer bills, the Town has decided that it would like to continue including 2,000 gallons of usage and providing a discount on the water base charges.

5.2 Pricing Goals and Objectives

To recommend an alternative rate design, it is necessary to determine the principal pricing goals and objectives of the design. Based on our experience, there are a number of common goals and objectives related to the pricing of water service. The most common considerations include the following:

Exhibit 5.4 Rate Design Pricing Objectives and Modification Considerations

Objective	Rate Design Modification Considerations
Cost of Service Recovery - Ensure that the cost of providing the service is recovered	• Setting rates and fees to fully recover cost of providing service • Setting rates to ensure financial metrics are met
Minimizing Customer Impact - Limit bill increases	• Limiting the one-time changes to the rate design • Phasing in increases
Equity - Costs are allocated to customers based on cost causation	• Adjusting rates to match cost of service
Revenue Stability - Limit changes in annual revenues from rates and fees	• Increase the fixed portion of revenues • Limit revenues that are dependent on increasing customer consumption
Affordability - Customer bills are affordable to low income households	• Providing a rate design that provides a discount for those who present a financial need
Rate Stability - Limit the annual changes in rates and resulting customer bills	• Limit or phase in changes to rate design • Conservatively set rates
Ease of Understanding - Rate design is understandable and not overly complex	• Limit changes to rate design • Use of effective nomenclature for rates and fees
Economic Development - Foster and maintain economic development	• Minimize bill impacts to commercial and industrial customers

Objective	Rate Design Modification Considerations
Legality - Comply with all legal requirements	• Utilize a rational basis for all rates and fees
Ease of Implementation - Minimize administrative burden of implementing rate design	• Limit changes to rate design

Each of the pricing goals and objectives were viewed in light of the Town's overall strategies. While all of the objectives mentioned above are important, there were several objectives that were identified as being the most important for the study:

- *Cost of Service Recovery* - The rate design must provide the revenues needed to operate the system, provide for capital needs and meet the financial targets for long-term financial health and stability.

- *Minimizing Customer Impact* and *Economic Development* - The direct impact to Town customers should be minimized, realizing that customer retention (both residential and non-residential) and continued usage is critical for the continued health and stability of the water system.

5.3 Proposed Water Rate Designs

In addition to projecting rates under the current design, two alternative rate designs were developed to meet the water pricing goals and objectives of the Town. In all rate designs developed, the following elements have been kept constant:

- The base charge includes the first 2,000 gallons of usage per month
- Out-of-Town customers are charged 1.5 times the rates of In-Town customers
- All rate designs collect the same amount of revenue (i.e., revenue neutral) so rates can be compared on an apples-to-apples basis

The following three rate designs were developed:

- Current Water Rate Design – same base charge paid by all customers and single commodity charge
- Alternative Water Rate Design 1 – base charge by meter size and single commodity charge
- Alternative Water Rate Design 2 – base charge by meter size and three-tiered commodity charge

Each rate design is described in further detail below.

5.3.1 Current Water Rate Design

As mentioned in Section 5.1, the Town's current water design consists of a monthly minimum base charge (which includes the first 2,000 gallons of usage) and a commodity charge per 1,000 gallons of usage (over the first 2,000 gallons). Exhibit 5.5 shows the current and proposed water rates for both In-Town and Out-of-Town customers under this rate design.

Exhibit 5.5 Proposed Monthly Water Rates – Current Design

Charge/Rate	Current	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
In-Town						
Base Charge (includes the first 2,000 gallons)	$4.00	$7.92	$7.94	$7.97	$7.96	$7.96
Commodity Charge (per 1,000 gallons)	$3.10	$6.32	$6.55	$6.78	$7.02	$7.26
Out-of-Town						
Base Charge (includes the first 2,000 gallons)	$6.00	$11.88	$11.92	$11.96	$11.94	$11.94
Commodity Charge (per 1,000 gallons)	$4.65	$9.49	$9.82	$10.17	$10.52	$10.89

5.3.2 Alternative Water Rate Design 1

The first alternative water rate design ("Alternative 1") developed introduces a base charge that varies by meter size. Unlike the current rate design in which all customers pay the same base charge regardless of meter size, Alternative 1 charges more to customers with larger meters, with meter size equivalents referenced from the AWWA Manual M1, because the cost of maintaining, repairing and replacing larger meter sizes is higher than those of smaller meter sizes. Also, since the size of a customer's meter represents the potential demand that they can place on the water system (e.g., a 6 inch meter can demand significantly more water than a 5/8 inch meter), it costs more to maintain the water supply for a larger metered customer. Exhibit 5.6 provides the total number of current water customer accounts (In-Town and Out-of-Town) by meter size as well as a comparison of the Town's current base charge equivalents with the recommended AWWA equivalents.

Exhibit 5.6 Water Base Charge Equivalents

	FY 2015	Equivalents	
Meter Size	Accounts	Town	AWWA
5/8"	4,615	1.0	1.0
3/4"	-	1.0	1.5
1"	126	1.0	2.5
1 ½"	56	1.0	5.0
2"	56	1.0	8.0
3"	7	1.0	17.5
4"	-	1.0	31.5
6"	-	1.0	65.0
8"	-	1.0	80.0

Exhibit 5.6 shows that roughly 95% of all customers have a 5/8 inch meter and would continue to be charged a base charge equivalency factor of 1. In Alternative 1, all customers would continue to pay the same commodity charge for all usage over 2,000 gallons per month. Exhibit 5.7 and Exhibit 5.8 show the proposed water rates under Alternative 1 for In-Town and Out-of-Town customers, respectively.

Exhibit 5.7 Proposed In-Town Monthly Water Rates – Alternative Design 1

Charge/Rate	Current	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Base Charge by Meter Size (Includes the first 2,000 gallons)						
5/8"	$4.00	$6.74	$6.76	$6.79	$6.80	$6.83
3/4"	$4.00	$10.11	$10.14	$10.19	$10.20	$10.25
1"	$4.00	$16.85	$16.90	$16.98	$17.00	$17.08
1 ½"	$4.00	$33.70	$33.80	$33.95	$34.00	$34.15
2"	$4.00	$53.92	$54.08	$54.32	$54.40	$54.64
3"	$4.00	$117.95	$118.30	$118.83	$119.00	$119.53
4"	$4.00	$212.31	$212.94	$213.89	$214.20	$215.15
6"	$4.00	$438.10	$439.40	$441.35	$442.00	$443.95
8”	$4.00	$539.20	$540.80	$543.20	$544.00	$546.40
Commodity Charge (per 1,000 gallons)						
All Usage	$3.10	$6.32	$6.55	$6.78	$7.02	$7.26

Exhibit 5.8 Proposed Out-of-Town Monthly Water Rates – Alternative Design 1

Charge/Rate	Current	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Base Charge by Meter Size (Includes the first 2,000 gallons)						
5/8"	$6.00	$10.11	$10.14	$10.19	$10.20	$10.24
3/4"	$6.00	$15.17	$15.21	$15.29	$15.30	$15.36
1"	$6.00	$25.28	$25.35	$25.48	$25.50	$25.60
1 ½"	$6.00	$50.55	$50.70	$50.95	$51.00	$51.20
2"	$6.00	$80.88	$81.12	$81.52	$81.60	$81.92
3"	$6.00	$176.93	$177.45	$178.33	$178.50	$179.20
4"	$6.00	$318.47	$319.41	$320.99	$321.30	$322.56
6"	$6.00	$657.15	$659.10	$662.35	$663.00	$665.60
8”	$6.00	$808.80	$811.20	$815.20	$816.00	$819.20
Commodity Charge (per 1,000 gallons)						
All Usage	$4.65	$9.49	$9.82	$10.17	$10.52	$10.89

5.3.3 Alternative Water Rate Design 2

The second alternative water rate design (“Alternative 2”) builds off Alternative 1. The design includes a base charge by meter size but adds three tiers of commodity charges for usage over 2,000 gallons per month. The commodity charge design for Alternative 2 is as follows:

- Tier 1 – 2,001 to 10,000 gallons
- Tier 2 – 10,001 to 100,000 gallons
- Tier 3 – Over 100,000 gallons

Exhibit 5.9 presents the cumulative percent of annual customer bills and usage that fall into each tier.

Exhibit 5.9 Cumulative Percent of Bills and Usage by Tier

	Usage Range		Cumulative Percent	
	From	To	Bills	Usage
Base	-	2,000	21%	27%
Tier 1	2,001	10,000	92%	64%
Tier 2	10,001	100,000	99%	89%
Tier 3	101,000	And over	100%	100%

As can be seen in Exhibit 5.9, the Base and Tier 1 charges capture the majority of annual bills (92%) and almost two-thirds of usage (64%), representing most residential and small non-residential customers. Tier 3 captures another 7% of annual bills and 25% of usage (representing large residential and medium non-residential customers) while Tier 3 captures the last 1% of customer bills and 11% of usage, representing the largest non-residential customers.

The pricing for the three-tier commodity rate design consists of a pyramidal block rate design in which Tier 2 usage (per 1,000 gallons) is charged at a higher rate (i.e., the more you use, the more it costs *per unit*) than Tier 1, and Tier 3 usage is charged at a rate lower than Tier 2, yet still slightly higher than Tier 1 (encouraging development by non-residential customers who have a natural financial incentive to conserve). The second and third tier rates have been set to be multiples of the first tier rate as follows:

- Tier 2 Rate = 1.75 times the Tier 1 rate
- Tier 3 Rate = 1.25 times the Tier 1 rate

Exhibit 5.10 and Exhibit 5.11 show the proposed water rates under Alternative 2 for In-Town and Out-of-Town customers, respectively.

Exhibit 5.10 Proposed In-Town Monthly Water Rates – Alternative Design 2

Charge/Rate	Current	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Base Charge by Meter Size (Includes the first 2,000 gallons)						
5/8"	$4.00	$6.74	$6.76	$6.79	$6.80	$6.83
3/4"	$4.00	$10.11	$10.14	$10.19	$10.20	$10.25
1"	$4.00	$16.85	$16.90	$16.98	$17.00	$17.08
1 ½"	$4.00	$33.70	$33.80	$33.95	$34.00	$34.15
2"	$4.00	$53.92	$54.08	$54.32	$54.40	$54.64
3"	$4.00	$117.95	$118.30	$118.83	$119.00	$119.53
4"	$4.00	$212.31	$212.94	$213.89	$214.20	$215.15
6"	$4.00	$438.10	$439.40	$441.35	$442.00	$443.95
8”	$4.00	$539.20	$540.80	$543.20	$544.00	$546.40
Commodity Charge (per 1,000 gallons)						
Tier 1 (2,001 - 10,000 gallons)	$3.10	$4.95	$5.12	$5.30	$5.49	$5.68
Tier 2 (10,001 - 100,000 gallons)	$3.10	$8.66	$8.96	$9.28	$9.61	$9.94
Tier 3 (Over 100,000 gallons)	$3.10	$6.19	$6.40	$6.63	$6.86	$7.10

Exhibit 5.11 Proposed Out-of-Town Monthly Water Rates – Alternative Design 2

Charge/Rate	Current	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Base Charge by Meter Size (Includes the first 2,000 gallons)						
5/8"	$6.00	$10.11	$10.14	$10.19	$10.20	$10.24
3/4"	$6.00	$15.17	$15.21	$15.29	$15.30	$15.36
1"	$6.00	$25.28	$25.35	$25.48	$25.50	$25.60
1 ½"	$6.00	$50.55	$50.70	$50.95	$51.00	$51.20
2"	$6.00	$80.88	$81.12	$81.52	$81.60	$81.92
3"	$6.00	$176.93	$177.45	$178.33	$178.50	$179.20
4"	$6.00	$318.47	$319.41	$320.99	$321.30	$322.56
6"	$6.00	$657.15	$659.10	$662.35	$663.00	$665.60
8”	$6.00	$808.80	$811.20	$815.20	$816.00	$819.20
Commodity Charge (per 1,000 gallons)						
Tier 1 (2,001 - 10,000 gallons)	$4.65	$7.42	$7.68	$7.95	$8.23	$8.52
Tier 2 (10,001 - 100,000 gallons)	$4.65	$12.99	$13.45	$13.92	$14.41	$14.92
Tier 3 (Over 100,000 gallons)	$4.65	$9.28	$9.60	$9.94	$10.29	$10.65

5.4 Proposed Water Rate Designs Comparison

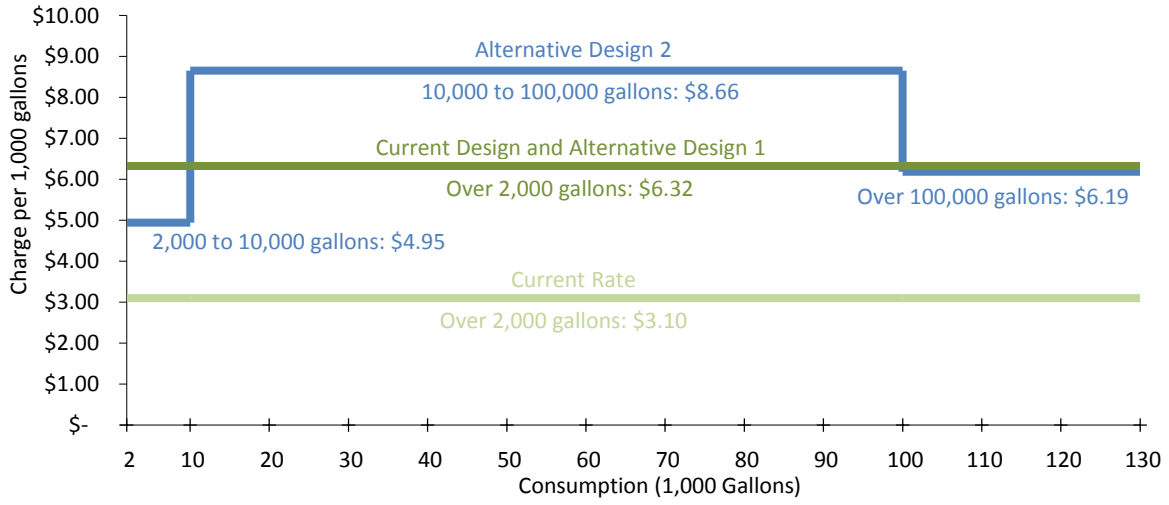
Exhibit 5.12 provides an overview comparison of each of the proposed rate designs.

Exhibit 5.12 Water Rate Design Comparison

Charge	Current	Alternative 1	Alternative 2
Base Charge (includes first 2,000 gallons)	All customers pay the same	Based on customer’s meter size	
Commodity Charge (rate per 1,000 gallons of usage over base usage)	Uniform rate		Varies by usage tier

Exhibit 5.13 provides a graphical representation of a customer’s water commodity charge with relation to their monthly usage under the two commodity charge options included in the three proposed designs.

Exhibit 5.13 Water Commodity Charge Comparison (In-Town Rates)



As 92% of annual bills (see Exhibit 5.6) fall into either the Base or Tier 1 usage range (less than 10,000 gallons of usage per month), the majority of water customers would never pay more than the first commodity charge tier and therefore would always pay the lowest rate for their usage over the minimum.

5.5 Recommended Monthly Water Rates

Based on discussion with Town staff and the information provided in Section 5.3 and Section 5.4, MFSG recommends that the Town adopt alternative water rate design 2. Alternative 2 has the smallest impact on the majority of customers. Additionally, customers that have very high average monthly consumption benefit from the pyramid commodity charge design since they receive a "discount" on usage greater than 100,000 gallons per month. Exhibit 5.14 and Exhibit 5.15 show five-year recommended rates for In-Town and Out-of-Town customers, respectively.

Exhibit 5.14 Recommended In-Town Monthly Water Rates

Charge/Rate	Current	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Base Charge by Meter Size (Includes the first 2,000 gallons)						
5/8"	$4.00	$6.74	$6.76	$6.79	$6.80	$6.83
3/4"	$4.00	$10.11	$10.14	$10.19	$10.20	$10.25
1"	$4.00	$16.85	$16.90	$16.98	$17.00	$17.08
1 ½"	$4.00	$33.70	$33.80	$33.95	$34.00	$34.15
2"	$4.00	$53.92	$54.08	$54.32	$54.40	$54.64
3"	$4.00	$117.95	$118.30	$118.83	$119.00	$119.53
4"	$4.00	$212.31	$212.94	$213.89	$214.20	$215.15
6"	$4.00	$438.10	$439.40	$441.35	$442.00	$443.95
8"	$4.00	$539.20	$540.80	$543.20	$544.00	$546.40
Commodity Charge (per 1,000 gallons)						
Tier 1 (2,001 - 10,000 gallons)	$3.10	$4.95	$5.12	$5.30	$5.49	$5.68
Tier 2 (10,001 - 100,000 gallons)	$3.10	$8.66	$8.96	$9.28	$9.61	$9.94
Tier 3 (Over 100,000 gallons)	$3.10	$6.19	$6.40	$6.63	$6.86	$7.10

Exhibit 5.15 Recommended Out-of-Town Monthly Water Rates

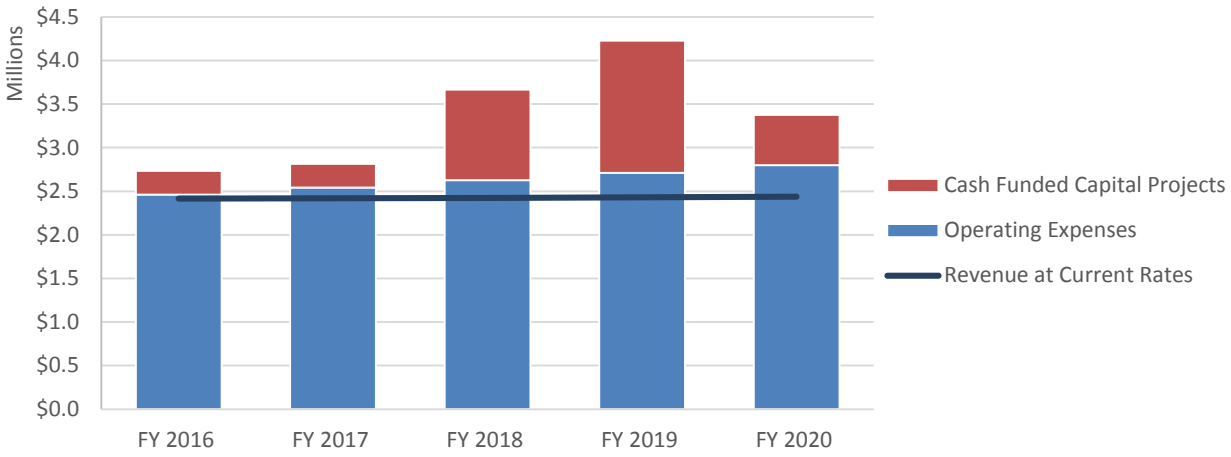
Charge/Rate	Current	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Base Charge by Meter Size (Includes the first 2,000 gallons)						
5/8"	$6.00	$10.11	$10.14	$10.19	$10.20	$10.24
3/4"	$6.00	$15.17	$15.21	$15.29	$15.30	$15.36
1"	$6.00	$25.28	$25.35	$25.48	$25.50	$25.60
1 ½"	$6.00	$50.55	$50.70	$50.95	$51.00	$51.20
2"	$6.00	$80.88	$81.12	$81.52	$81.60	$81.92
3"	$6.00	$176.93	$177.45	$178.33	$178.50	$179.20
4"	$6.00	$318.47	$319.41	$320.99	$321.30	$322.56
6"	$6.00	$657.15	$659.10	$662.35	$663.00	$665.60
8"	$6.00	$808.80	$811.20	$815.20	$816.00	$819.20
Commodity Charge (per 1,000 gallons)						
Tier 1 (2,001 - 10,000 gallons)	$4.65	$7.42	$7.68	$7.95	$8.23	$8.52
Tier 2 (10,001 - 100,000 gallons)	$4.65	$12.99	$13.45	$13.92	$14.41	$14.92
Tier 3 (Over 100,000 gallons)	$4.65	$9.28	$9.60	$9.94	$10.29	$10.65

6. SEWER FINANCIAL PLAN AND PROPOSED RATES

In Sections 3 and 4, MFSG projected the costs (net revenue requirements), customers and consumption for the Town's sewer system. In this section, we use those projections to determine an appropriate financial plan and set sewer rates for the next five years.

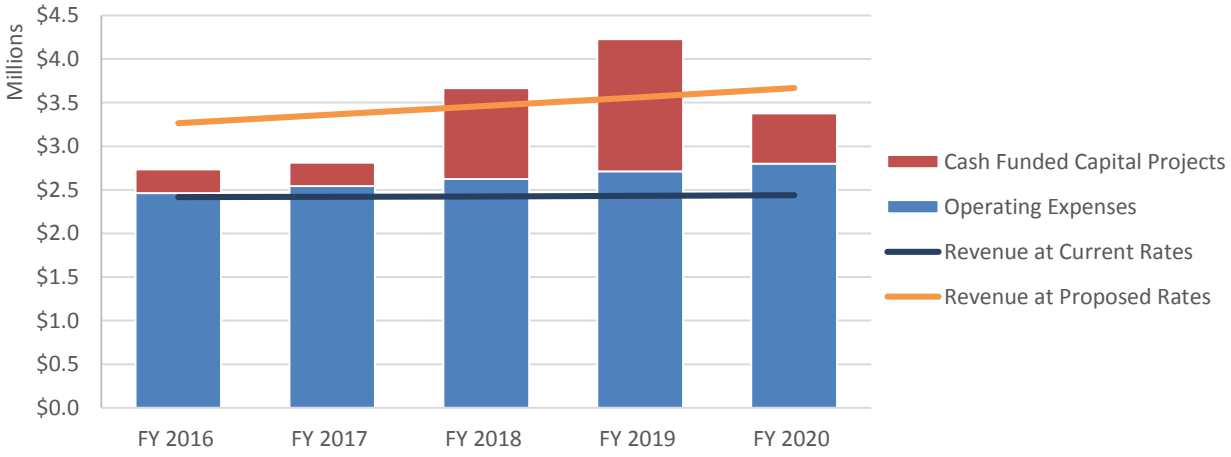
The adequacy of revenues from current rates was evaluated in order to determine if existing rates are sufficient to recover the net revenue requirements. Exhibit 6.1 compares the net revenue requirements identified for sewer with anticipated revenues at current rates.

Exhibit 6.1 Projected Sewer Revenue at Current Rates



Similar to the water fund, Exhibit 6.1 demonstrates that sewer revenue collected at current rates will not even sufficiently cover the sewer system's operating costs, let alone operating and capital costs. Town staff acknowledge that sewer rates need to be increased as cash reserves have been used for several years to offset shortfalls in the sewer fund. Exhibit 6.2 is identical to Exhibit 6.1 but with revenue at proposed rates included.

Exhibit 6.2 Sewer Revenue with Proposed Rates



Similar to the Water Fund, although Exhibit 6.2 shows shortfalls in FY 2018 and FY 2019, revenue at proposed rates has been calculated so that the target sewer fund cash balance of $2.00 million is met throughout each of the next five years.

6.1 Current Sewer Rates

The Town's current sewer design is identical to the current water design: a monthly minimum base charge (which includes the first 2,000 gallons of usage) and a commodity charge per 1,000 gallons of usage (over the first 2,000 gallons). Out-of-Town customers are also charged 1.5 times the rates of In-Town customers. Exhibit 6.3 presents current sewer rates.

Exhibit 6.3 Current Monthly Sewer Rates

Charge/Rate	In-Town	Out-of-Town
Base Charge, includes the first 2,000 gallons	$10.80	$16.20
Commodity Charge, per 1,000 gallons	$6.20	$9.30

As with water, the base charge for sewer is set at a discount to what it could be if it were set at two times the commodity charge ($10.80 as opposed to $12.40 for In-Town and $16.20 as opposed to $18.60 for Out-of-Town) resulting in a discount of 13%. In order to mitigate the impact on customer bills, the Town has decided that it would like to continue including 2,000 gallons of usage and providing a discount on the sewer base charges.

6.2 Pricing Goals and Objectives

The same pricing goals and objectives have been identified as important for sewer as were for water:

- *Cost of Service Recovery* - The rate design must provide the revenues needed to operate the system, provide for capital needs and meet the financial targets for long-term financial health and stability.

- *Minimizing Customer Impact* and *Economic Development* - The direct impact to Town customers should be minimized, realizing that customer retention (both residential and non-residential) and continued usage is critical for the continued health and stability of the sewer system.

6.3 Proposed Sewer Rate Designs

In addition to projecting rates under the current design, one alternative rate design was developed to meet the sewer pricing goals and objectives of the Town. In both rate designs developed, the following elements have been kept constant:

- The base charge includes the first 2,000 gallons of usage per month
- Out-of-Town customers are charged 1.5 times the rates of In-Town customers
- All rate designs collect the same amount of revenue (i.e., revenue neutral) so rates can be compared on an apples-to-apples basis

The following two rate designs were developed:

- Current Sewer Rate Design – same base charge paid by all customers and single commodity charge
- Alternative Sewer Rate Design – base charge by meter size and single commodity charge

Each rate design is described in further detail below.

6.3.1 Current Sewer Rate Design

As mentioned in Section 6.1, the Town's current sewer rate design consists of a monthly minimum base charge (which includes the first 2,000 gallons of usage) and a commodity charge per 1,000 gallons of usage (over the first 2,000 gallons). Exhibit 6.4 shows the current and proposed sewer rates for both In-Town and Out-of-Town customers under this rate design.

Exhibit 6.4 Proposed Monthly Sewer Rates – Current Design

Charge/Rate	Current	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
In-Town						
Base Charge (includes the first 2,000 gallons)	$10.80	$14.44	$14.60	$14.79	$14.85	$14.93
Commodity Charge (per 1,000 gallons)	$6.20	$8.47	$8.77	$9.08	$9.40	$9.73
Out-of-Town						
Base Charge (includes the first 2,000 gallons)	$16.20	$21.66	$21.90	$22.18	$22.28	$22.39
Commodity Charge (per 1,000 gallons)	$9.30	$12.71	$13.16	$13.62	$14.10	$14.60

6.3.2 Alternative Sewer Rate Design

The alternative sewer rate design ("Alternative 1") is identical to the first alternative water rate design as it introduces a base charge that varies by meter size where customers with larger meters pay more based on meter size equivalents referenced from the AWWA Manual M1. Exhibit 6.5 provides the total number of current sewer customer accounts (In-Town and Out-of-Town) by meter size as well as a comparison of the Town's current base charge equivalents with the recommended AWWA equivalents.

Exhibit 6.5 Sewer Base Charge Equivalents

	FY 2015	Equivalents	
Meter Size	Accounts	Town	AWWA
5/8"	4,193	1.0	1.0
3/4"	-	1.0	1.5
1"	117	1.0	2.5
1 ½"	54	1.0	5.0
2"	52	1.0	8.0
3"	6	1.0	17.5
4"	-	1.0	31.5
6"	-	1.0	65.0
8"	-	1.0	80.0

Exhibit 6.5 shows that roughly 95% of all sewer customers have a 5/8 inch meter and would continue to be charged a base charge equivalent of 1. In the alternative design, all customers would continue to pay the same commodity charge for all usage over 2,000 gallons per month. Exhibit 6.6 and Exhibit 6.7 show the proposed sewer rates under the alternative design for In-Town and Out-of-Town customers, respectively.

Exhibit 6.6 Proposed In-Town Monthly Sewer Rates – Alternative Design

Charge/Rate	Current	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Base Charge by Meter Size (Includes the first 2,000 gallons)						
5/8"	$10.80	$12.22	$12.34	$12.48	$12.56	$12.67
3/4"	$10.80	$18.33	$18.51	$18.72	$18.84	$19.01
1"	$10.80	$30.55	$30.85	$31.20	$31.40	$31.68
1 ½"	$10.80	$61.10	$61.70	$62.40	$62.80	$63.35
2"	$10.80	$97.76	$98.72	$99.84	$100.48	$101.36
3"	$10.80	$213.85	$215.95	$218.40	$219.80	$221.73
4"	$10.80	$384.93	$388.71	$393.12	$395.64	$399.11
6"	$10.80	$794.30	$802.10	$811.20	$816.40	$823.55
8”	$10.80	$977.60	$987.20	$998.40	$1,004.80	$1,013.60
Commodity Charge (per 1,000 gallons)						
All Usage	$6.20	$8.47	$8.77	$9.08	$9.40	$9.73

Exhibit 6.7 Proposed Out-of-Town Monthly Sewer Rates – Alternative Design

Charge/Rate	Current	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Base Charge by Meter Size (Includes the first 2,000 gallons)						
5/8"	$16.20	$18.32	$18.50	$18.73	$18.84	$19.01
3/4"	$16.20	$27.48	$27.75	$28.10	$28.26	$28.52
1"	$16.20	$45.80	$46.25	$46.83	$47.10	$47.53
1 ½"	$16.20	$91.60	$92.50	$93.65	$94.20	$95.05
2"	$16.20	$146.56	$148.00	$149.84	$150.72	$152.08
3"	$16.20	$320.60	$323.75	$327.78	$329.70	$332.68
4"	$16.20	$577.08	$582.75	$590.00	$593.46	$598.82
6"	$16.20	$1,190.80	$1,202.50	$1,217.45	$1,224.60	$1,235.65
8”	$16.20	$1,465.60	$1,480.00	$1,498.40	$1,507.20	$1,520.80
Commodity Charge (per 1,000 gallons)						
All Usage	$9.30	$12.71	$13.16	$13.62	$14.10	$14.60

6.4 Proposed Sewer Rate Designs Comparison

Exhibit 6.8 compares the current and alternative sewer rate designs.

Exhibit 6.8 Sewer Rate Design Comparison

Charge	Current	Alternative
Base Charge (includes first 2,000 gallons)	All customers pay the same	Based on customer’s meter size
Commodity Charge (rate per 1,000 gallons of usage over base usage)	Uniform rate	

6.5 Recommended Sewer Rates

Based on discussion with Town staff and the information provided in Section 6.3 and Section 6.4, MFSG recommends that the Town adopt the alternative sewer rate design. The alternative charges more to customers with larger meters as the costs of maintaining, repairing and replacing larger meter sizes is

higher than those of smaller meter sizes and, since the potential demand that they can place on the system is greater, it costs more to maintain the sewer treatment capacity for a larger metered customer. Exhibit 6.9 and Exhibit 6.10 show five-year recommended rates for In-Town and Out-of-Town customers, respectively.

Exhibit 6.9 Recommended In-Town Monthly Sewer Rates

Charge/Rate	Current	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Base Charge by Meter Size (Includes the first 2,000 gallons)						
5/8"	$10.80	$12.22	$12.34	$12.48	$12.56	$12.67
3/4"	$10.80	$18.33	$18.51	$18.72	$18.84	$19.01
1"	$10.80	$30.55	$30.85	$31.20	$31.40	$31.68
1 ½"	$10.80	$61.10	$61.70	$62.40	$62.80	$63.35
2"	$10.80	$97.76	$98.72	$99.84	$100.48	$101.36
3"	$10.80	$213.85	$215.95	$218.40	$219.80	$221.73
4"	$10.80	$384.93	$388.71	$393.12	$395.64	$399.11
6"	$10.80	$794.30	$802.10	$811.20	$816.40	$823.55
8”	$10.80	$977.60	$987.20	$998.40	$1,004.80	$1,013.60
Commodity Charge (per 1,000 gallons)						
All Usage	$6.20	$8.47	$8.77	$9.08	$9.40	$9.73

Exhibit 6.10 Recommended Out-of-Town Monthly Sewer Rates

Charge/Rate	Current	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Base Charge by Meter Size (Includes the first 2,000 gallons)						
5/8"	$16.20	$18.32	$18.50	$18.73	$18.84	$19.01
3/4"	$16.20	$27.48	$27.75	$28.10	$28.26	$28.52
1"	$16.20	$45.80	$46.25	$46.83	$47.10	$47.53
1 ½"	$16.20	$91.60	$92.50	$93.65	$94.20	$95.05
2"	$16.20	$146.56	$148.00	$149.84	$150.72	$152.08
3"	$16.20	$320.60	$323.75	$327.78	$329.70	$332.68
4"	$16.20	$577.08	$582.75	$590.00	$593.46	$598.82
6"	$16.20	$1,190.80	$1,202.50	$1,217.45	$1,224.60	$1,235.65
8”	$16.20	$1,465.60	$1,480.00	$1,498.40	$1,507.20	$1,520.80
Commodity Charge (per 1,000 gallons)						
All Usage	$9.30	$12.71	$13.16	$13.62	$14.10	$14.60

7. CUSTOMER BILL IMPACTS

7.1 Sample Bills

Exhibit 7.1 provides a comparison of sample monthly combined (water and sewer) bills using current and recommended (water alternative 2 with sewer alternative) rates for various property types.

Exhibit 7.1 Monthly Bill Impact with Recommended Rates

Property Type	Common Meter Size	Median Usage	Current (FY 2015)	Recommended (FY 2016)	$ Increase
Residential	5/8	3,900	$32.47	$44.46	$11.99
Restaurant	1 1/2	55,300	$510.49	$978.15	$467.66
Grocery Store	1 1/2	67,700	$625.81	$1,190.56	$564.75
Assisted Living/Nursing Home	2	121,200	$1,123.36	$2,111.53	$988.17
Hospital/Health Facility	3	233,200	$2,164.96	$3,933.57	$1,768.61

7.2 Monthly Bill Comparisons

It can be useful for the Town to compare sample bills of various local utilities to a bill calculated using the Town's current and recommended rates. A comparison has been made between the Town and five other utilities in the surrounding area (which were selected after discussion with the Town).

The following exhibits illustrate a comparison of a combined water and sewer monthly bill for the different property type customers shown in Exhibit 7.1. It is important to note that the sample bills for the other municipalities are calculated using current rates (FY 2015) and do not reflect potential increases in rates in FY 2016 as this information is not available at this time. As a result, the comparisons show proposed FY 2016 sample bills for the Town compared with FY 2015 bills for the comparison municipalities.

Exhibit 7.2 Example Monthly Combined Bill – Residential (5/8" Meter; 3,900 gallons)

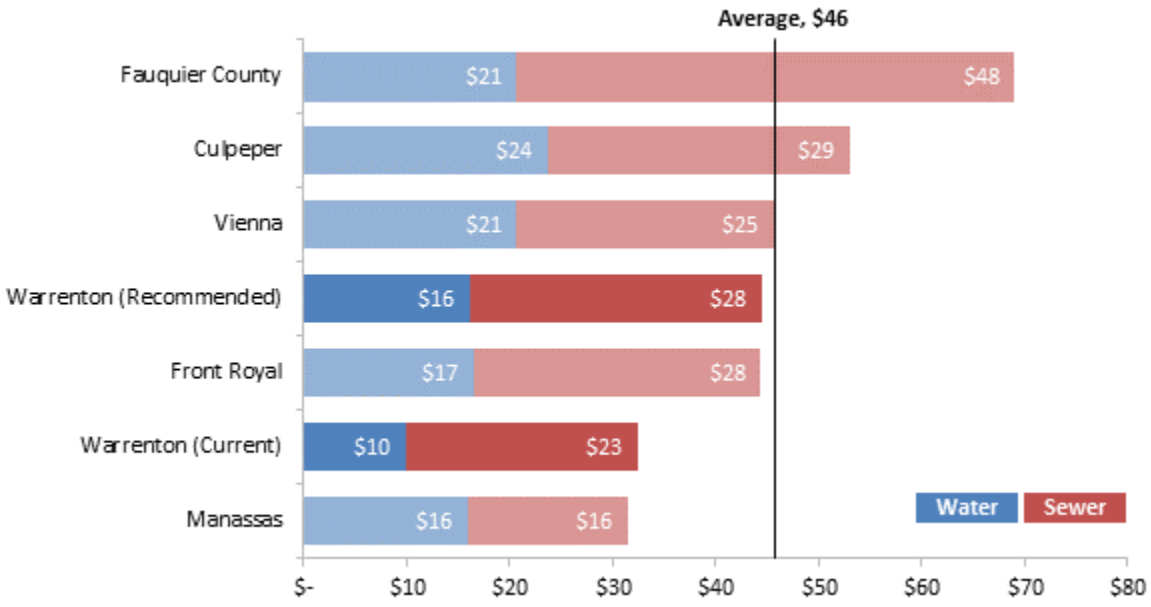


Exhibit 7.3 Example Monthly Combined Bill – Restaurant (1 ½" Meter; 55,300 gallons)

Exhibit 7.4 Example Monthly Combined Bill – Grocery Store (1 ½" Meter; 67,700 gallons)

Exhibit 7.5 Example Monthly Combined Bill – Assisted Living Home (2" Meter; 121,200 gallons)

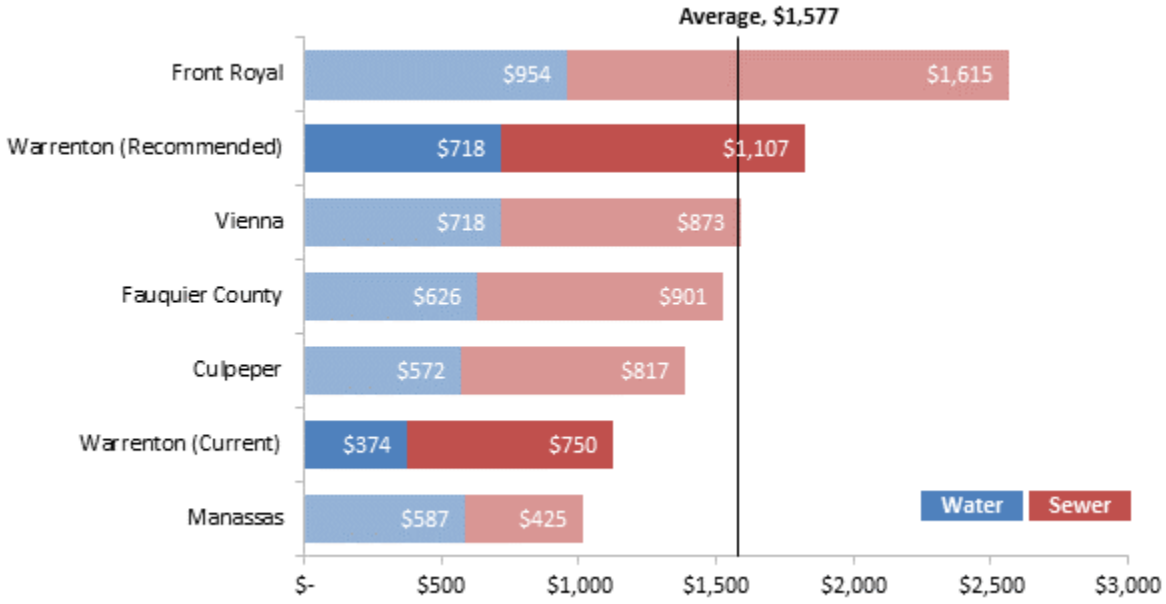


Exhibit 7.6 Example Monthly Combined Bill – Hospital (3" Meter; 233,200 gallons)

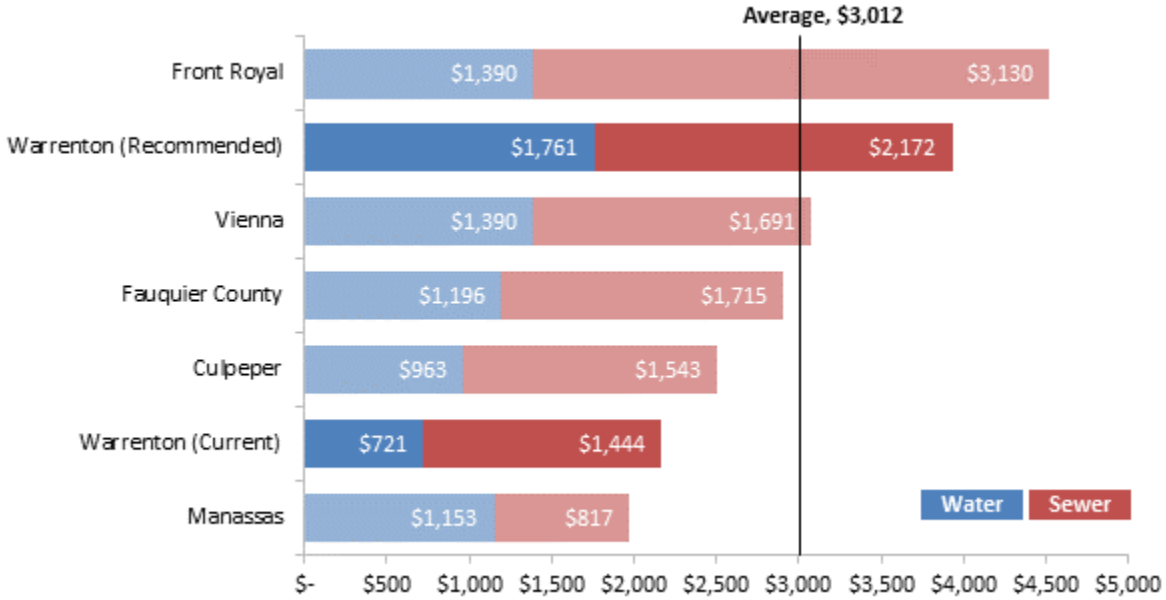


Exhibit 7.2 shows that for a typical Warrenton customer (3.900 gallons per month), the recommended rates result in a combined bill that is lower than the average of the comparison municipalities. Exhibit 7.3 through Exhibit 7.6 show that for example non-residential customers, recommended rates result in combined bills slightly above the average of the comparison municipalities. While the exhibits may be helpful in observing what similar utilities charge for water and sewer service, it can also be misleading and should not be used as a sole determinant when calculating future rates. The most important factor in determining rates how much it costs (per unit of service) to provide water and sewer service.

8. AVAILABILITY FEES

The Town collects availability fees from new customers joining the water and sewer system. Availability fees are intended to recover the capital costs of backbone capacity in the water and sewer system (i.e., major mains, pumping stations and treatment facilities) needed to provide service to new customers. Water and sewer availability fees are discussed below with any suggested changes/modifications.

8.1 Methodology

While there are a variety of methods for calculating growth-related fees to serve new customers, most methods of calculating these fees fall into three broad categories:

- *System Buy-In Method*: Also referred to as the equity method, it reflects the cost of buying into the current system, or the average equity of existing customers. It represents the historical costs of the system and its assets. This calculation is often used in a utility which has sufficient capacity to serve both current and new customers and does not plan on any significant system facilities investments in the near future.

- *Incremental Method*: This approach estimates the incremental cost to add capacity to serve new customers. It assigns the cost of expansion to future customers, ensuring "growth pays for growth" and mitigating the financial impact on current users of the system.

- *Hybrid Method*: This method is a hybrid of the system buy-in and incremental methods. The calculation involves a weighted average, as opposed to a summation, of both the historical cost of the system plus the known growth costs of the utility's capital improvement program.

8.2 Equivalent Residential Connections (ERCs)

The fees are calculated per equivalent residential connection (ERC), which is the assumed maximum water or sewer demand a customer may place on the system (currently defined by the Town for planning purposes as 300 gpd (gallons per day) for water and 270 gpd for sewer, accounting for peaking of the systems and fire flow demands. For most new customers, the number of equivalents (ERCs) is based on the meter size installed (similar to the recommended base charges) as it costs more to maintain the supply for a larger metered customer who has the potential to place a greater demand on the system. The recommended meter equivalents are based on meter equivalent standards within the AWWA M1 manual. Exhibit 8.1 provides a comparison of the Town's current equivalents and the recommended equivalents.

Exhibit 8.1 Current and Recommended Meter Equivalents

	Water		Sewer	
Meter Size	Current	Recommended	Current	Recommended
5/8"	1.0	1.0	1.0	1.0
1"	2.5	2.5	2.1	2.5
1 ½"	5.0	5.0	4.2	5.0
2"	8.0	8.0	6.8	8.0
3"	17.5	17.5	14.9	17.5
4"	30.0	31.5	25.5	31.5
6"	62.5	65.0	53.1	65.0
8"	80.0	80.0	67.9	80.0

8.3 Fee Calculation

The In-Town fees are currently $4,950 per ERC for water and $7,300 per ERC for sewer. Similar to usage rates, Out-of-Town availability fees are set at 1.5 times higher than In-Town fees. In conjunction with our analysis, the Town and WR&A developed a 10-year capital improvement plan that defined projects that were related to growth (increases in system capacity). Based on those projections, fixed assets and the number of existing and projected ERCs, we are recommending that the Town keep water availability fees the same per meter equivalent (however, adjusting the meter equivalents based on Exhibit 8.1) and increase the sewer availability fee per meter equivalent. Our recommended water and sewer availability fees are presented in Exhibit 8.2 and Exhibit 8.3, respectively.

Exhibit 8.2 Recommended Water Availability Fees

Meter Size	Current		Recommended	
	In-Town	Out-of-Town	In-Town	Out-of-Town
5/8"	$4,950	$7,425	$4,950	$7,425
1"	$12,375	$18,563	$12,375	$18,563
1 ½"	$24,750	$37,125	$24,750	$37,125
2"	$39,600	$59,400	$39,600	$59,400
3"	$86,625	$129,938	$86,625	$129,938
4"	$148,500	$222,750	$155,925	$233,888
6"	$309,375	$464,063	$321,750	$482,625
8"	$396,000	$594,000	$396,000	$594,000

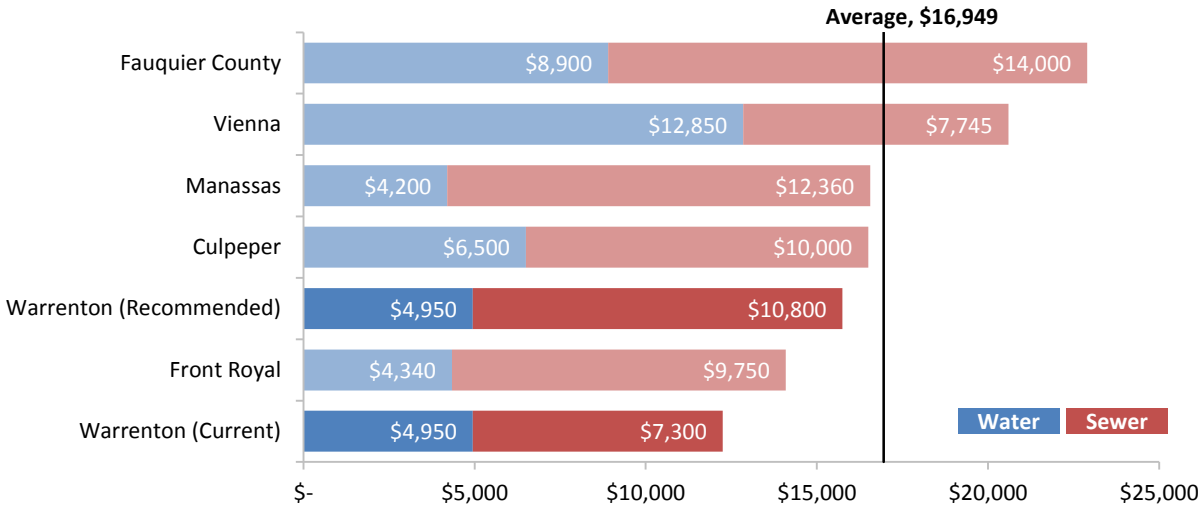
Exhibit 8.3 Recommended Sewer Availability Fees

Meter Size	Current		Recommended	
	In-Town	Out-of-Town	In-Town	Out-of-Town
5/8"	$7,300	$10,950	$10,800	$16,200
1"	$15,500	$23,250	$27,000	$40,500
1 ½"	$31,000	$46,500	$54,000	$81,000
2"	$49,600	$74,400	$86,400	$129,600
3"	$108,500	$162,750	$189,000	$283,500
4"	$186,000	$279,000	$340,200	$510,300
6"	$387,500	$581,250	$702,000	$1,053,000
8"	$496,000	$744,000	$864,000	$1,296,000

8.4 Fee Comparisons

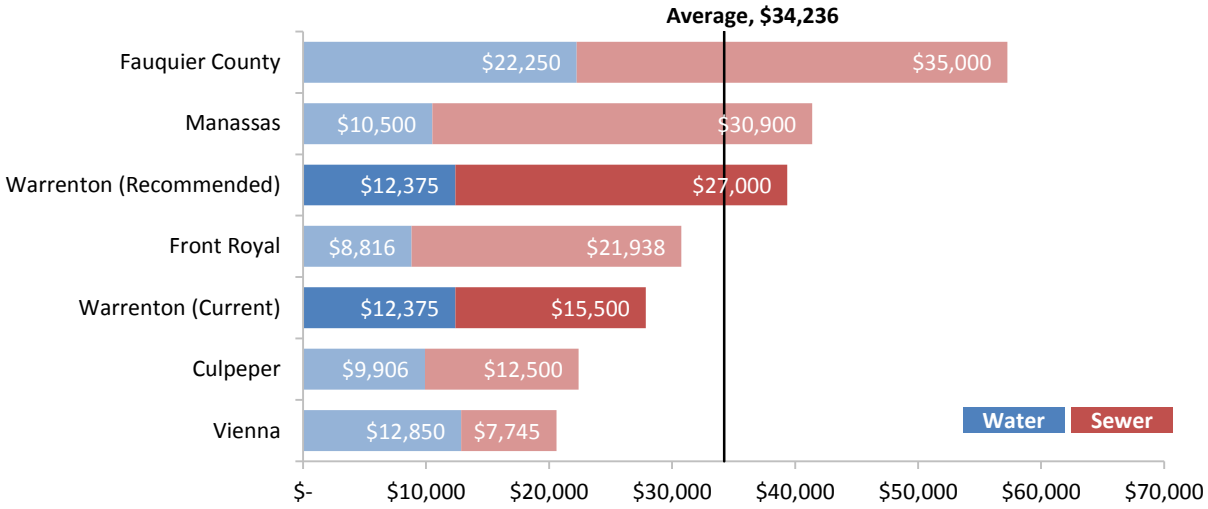
To demonstrate the impact of the recommended fees, the following exhibits provide a comparison of a combined (water and sewer) availability fee for the Town with surrounding municipalities. While the most current fees available were used in the comparison, the bills may not reflect unknown increases within the comparison utilities. The fees shown for Manassas and Front Royal are the *minimum* fee; the total availability fee for these two comparisons is based on the number of fixtures and therefore may be higher.

Exhibit 8.4 Combined Availability Fee Comparison (5/8 inch meter)



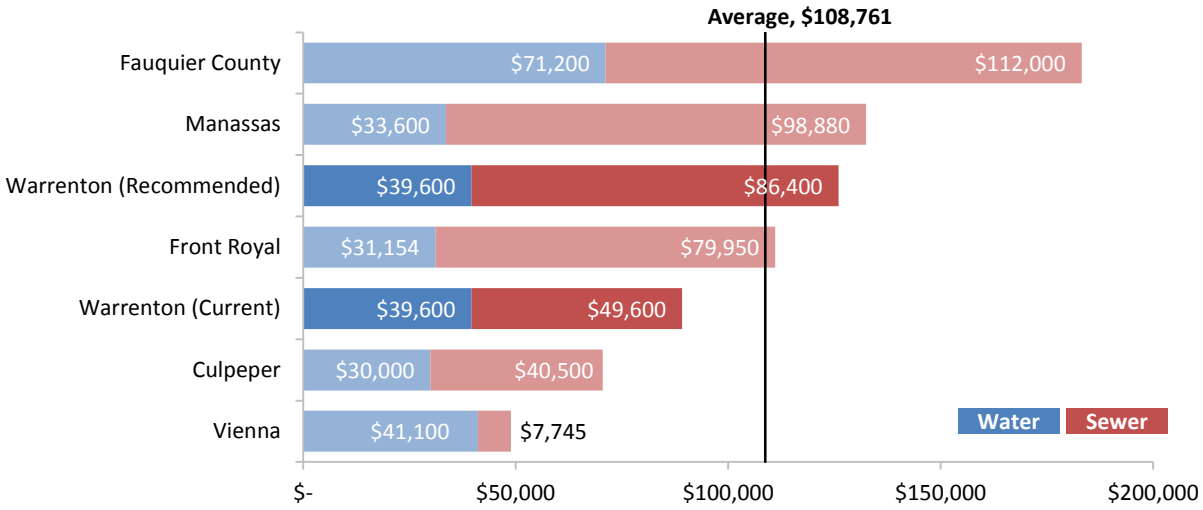
Notes: The fees shown for Manassas are for up to and including 3 bedrooms based on 24 fixture units, the fees shown for Front Royal are for a 3/4 inch meter and the fees shown for Vienna are for a 1 inch meter.

Exhibit 8.5 Combined Availability Fee Comparison (1 inch meter)



Notes: The fees shown for Manassas assume 60 fixture units (per fixture unit fee is $175 and $515 for water and sewer, respectively).

Exhibit 8.6 Combined Availability Fee Comparison (2 inch meter)



Notes: The fees shown for Manassas assume 192 fixture units (per fixture unit fee is $175 and $515 for water and sewer, respectively).

Exhibit 8.4 shows that for a 5/8 inch connection (typical residential connection), the recommended availability fees result in a combined water and sewer fee that is lower than the average for the comparison municipalities. Exhibit 8.5 and Exhibit 8.6 show that for example non-residential connections, recommended fees result in combined water and sewer fees above average for the comparison municipalities. While the exhibits may be helpful in observing what similar utilities charge for water and sewer service, it may also be misleading at times and should not be used as a sole determinant when calculating future availability fees. The most important factor in determining availability fees is the cost available capacity in the water and sewer systems.

9. FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

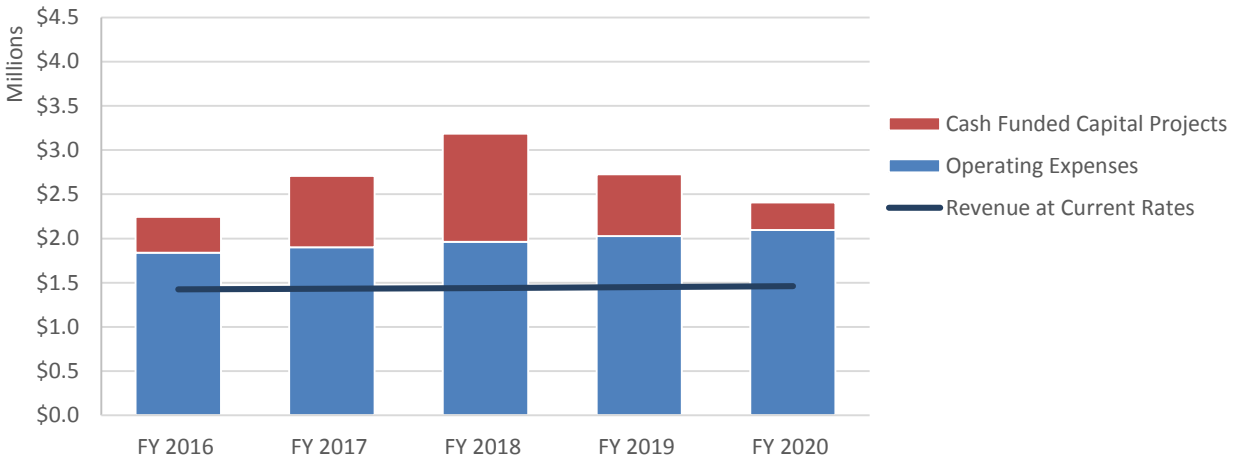
The following findings, conclusions and recommendations were developed during the course of the study.

9.1 Findings

- While costs have increased and usage (and therefore revenues) has decreased, the Town has not raised water and sewer rates in almost 20 years.

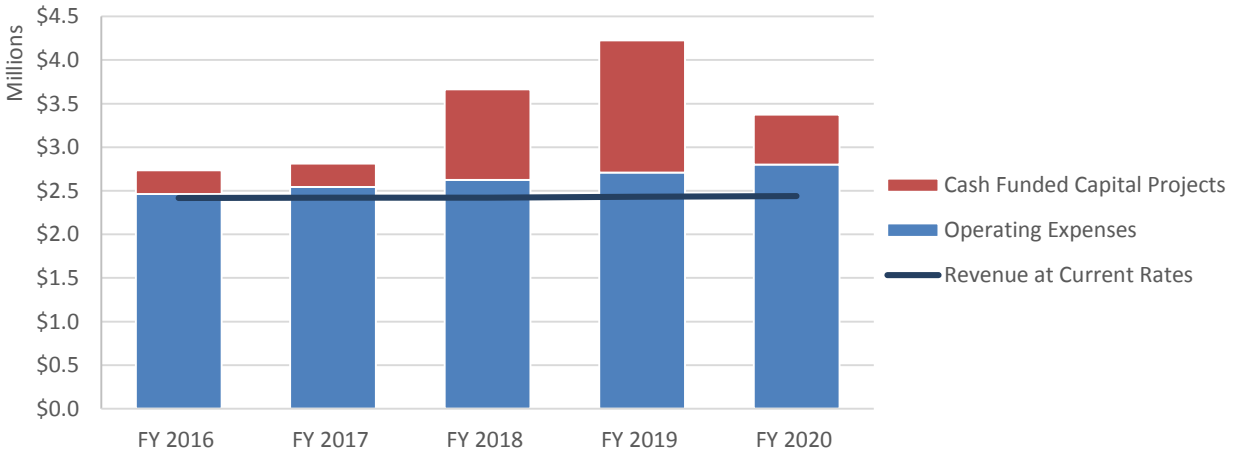
- Current water rates will not produce sufficient revenue to fund the revenue requirements for any year of the planning period. In fact, revenue collected at current water rates will not even sufficiently cover the water system's operating costs, let alone operating and capital costs.

Exhibit 9.1 Projected Water Operating Results



- Current sewer rates will not produce sufficient revenue to fund the revenue requirements for any year of the planning period. In fact, revenue collected at current sewer rates will not even sufficiently cover the sewer system's operating costs, let alone operating and capital costs.

Exhibit 9.2 Projected Sewer Operating Results



- The Town's current water availability fees are currently set at a level that will recover the cost of providing system capacity to new water customers; however the equivalents for larger meters

should be revised to match the standards from American Water Works Association (AWWA). The Town's current sewer availability fees are set a level below the cost of connecting a new customer to the sewer system.

9.2 Conclusions

- The Town needs to increase water and sewer rates in FY 2016 and over the entire planning period to keep revenues in line with expenses and to fund the required operating and capital costs identified.

- The Town should maintain water availability fees at their current levels but revise the equivalents for larger meters to match the standards from AWWA. The Town should increase the sewer availability fees so that they equal the cost of providing sewer capacity to new customers.

9.3 Recommendations

- Adopt the following recommended water rates for the next five years:

Exhibit 9.3 Recommended In-Town Monthly Water Rates

Charge/Rate	Current	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Base Charge by Meter Size (Includes the first 2,000 gallons)						
5/8"	$4.00	$6.74	$6.76	$6.79	$6.80	$6.83
3/4"	$4.00	$10.11	$10.14	$10.19	$10.20	$10.25
1"	$4.00	$16.85	$16.90	$16.98	$17.00	$17.08
1 ½"	$4.00	$33.70	$33.80	$33.95	$34.00	$34.15
2"	$4.00	$53.92	$54.08	$54.32	$54.40	$54.64
3"	$4.00	$117.95	$118.30	$118.83	$119.00	$119.53
4"	$4.00	$212.31	$212.94	$213.89	$214.20	$215.15
6"	$4.00	$438.10	$439.40	$441.35	$442.00	$443.95
8"	$4.00	$539.20	$540.80	$543.20	$544.00	$546.40
Commodity Charge (per 1,000 gallons)						
Tier 1 (2,001 - 10,000 gallons)	$3.10	$4.95	$5.12	$5.30	$5.49	$5.68
Tier 2 (10,001 - 100,000 gallons)	$3.10	$8.66	$8.96	$9.28	$9.61	$9.94
Tier 3 (Over 100,000 gallons)	$3.10	$6.19	$6.40	$6.63	$6.86	$7.10

Exhibit 9.4 Recommended Out-of-Town Monthly Water Rates

Charge/Rate	Current	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Base Charge by Meter Size (Includes the first 2,000 gallons)						
5/8"	$6.00	$10.11	$10.14	$10.19	$10.20	$10.24
3/4"	$6.00	$15.17	$15.21	$15.29	$15.30	$15.36
1"	$6.00	$25.28	$25.35	$25.48	$25.50	$25.60
1 ½"	$6.00	$50.55	$50.70	$50.95	$51.00	$51.20
2"	$6.00	$80.88	$81.12	$81.52	$81.60	$81.92
3"	$6.00	$176.93	$177.45	$178.33	$178.50	$179.20
4"	$6.00	$318.47	$319.41	$320.99	$321.30	$322.56
6"	$6.00	$657.15	$659.10	$662.35	$663.00	$665.60
8”	$6.00	$808.80	$811.20	$815.20	$816.00	$819.20
Commodity Charge (per 1,000 gallons)						
Tier 1 (2,001 - 10,000 gallons)	$4.65	$7.42	$7.68	$7.95	$8.23	$8.52
Tier 2 (10,001 - 100,000 gallons)	$4.65	$12.99	$13.45	$13.92	$14.41	$14.92
Tier 3 (Over 100,000 gallons)	$4.65	$9.28	$9.60	$9.94	$10.29	$10.65

- Adopt the following recommended sewer rates for the next five years:

Exhibit 9.5 Recommended In-Town Monthly Sewer Rates

Charge/Rate	Current	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Base Charge by Meter Size (Includes the first 2,000 gallons)						
5/8"	$10.80	$12.22	$12.34	$12.48	$12.56	$12.67
3/4"	$10.80	$18.33	$18.51	$18.72	$18.84	$19.01
1"	$10.80	$30.55	$30.85	$31.20	$31.40	$31.68
1 ½"	$10.80	$61.10	$61.70	$62.40	$62.80	$63.35
2"	$10.80	$97.76	$98.72	$99.84	$100.48	$101.36
3"	$10.80	$213.85	$215.95	$218.40	$219.80	$221.73
4"	$10.80	$384.93	$388.71	$393.12	$395.64	$399.11
6"	$10.80	$794.30	$802.10	$811.20	$816.40	$823.55
8”	$10.80	$977.60	$987.20	$998.40	$1,004.80	$1,013.60
Commodity Charge (per 1,000 gallons)						
All Usage	$6.20	$8.47	$8.77	$9.08	$9.40	$9.73

Exhibit 9.6 Recommended Out-of-Town Monthly Sewer Rates

Charge/Rate	Current	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Base Charge by Meter Size (Includes the first 2,000 gallons)						
5/8"	$16.20	$18.32	$18.50	$18.73	$18.84	$19.01
3/4"	$16.20	$27.48	$27.75	$28.10	$28.26	$28.52
1"	$16.20	$45.80	$46.25	$46.83	$47.10	$47.53
1 ½"	$16.20	$91.60	$92.50	$93.65	$94.20	$95.05
2"	$16.20	$146.56	$148.00	$149.84	$150.72	$152.08
3"	$16.20	$320.60	$323.75	$327.78	$329.70	$332.68
4"	$16.20	$577.08	$582.75	$590.00	$593.46	$598.82
6"	$16.20	$1,190.80	$1,202.50	$1,217.45	$1,224.60	$1,235.65
8”	$16.20	$1,465.60	$1,480.00	$1,498.40	$1,507.20	$1,520.80
Commodity Charge (per 1,000 gallons)						
All Usage	$9.30	$12.71	$13.16	$13.62	$14.10	$14.60

- Review rates and charges on an annual basis and revise as needed. Consider a full cost of service study for all rates and charges every five years. While it is recommended to adopt rates and charges for five years so they do not have to be revisited and voted on every year by the Council, it is financially prudent to review expenses and revenues annually to ensure actual values are relatively in line with those projected.

- Adopt the following recommended water and sewer availability fees:

Exhibit 9.7 Recommended Water Availability Fees

	Current		Recommended	
Meter Size	In-Town	Out-of-Town	In-Town	Out-of-Town
5/8"	$4,950	$7,425	$4,950	$7,425
1"	$12,375	$18,563	$12,375	$18,563
1 ½"	$24,750	$37,125	$24,750	$37,125
2"	$39,600	$59,400	$39,600	$59,400
3"	$86,625	$129,938	$86,625	$129,938
4"	$148,500	$222,750	$155,925	$233,888
6"	$309,375	$464,063	$321,750	$482,625
8"	$396,000	$594,000	$396,000	$594,000

Exhibit 9.8 Recommended Sewer Availability Fees

	Current		Recommended	
Meter Size	In-Town	Out-of-Town	In-Town	Out-of-Town
5/8"	$7,300	$10,950	$10,800	$16,200
1"	$15,500	$23,250	$27,000	$40,500
1 ½"	$31,000	$46,500	$54,000	$81,000
2"	$49,600	$74,400	$86,400	$129,600
3"	$108,500	$162,750	$189,000	$283,500
4"	$186,000	$279,000	$340,200	$510,300
6"	$387,500	$581,250	$702,000	$1,053,000
8"	$496,000	$744,000	$864,000	$1,296,000

Municipal & Financial Services Group

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